

# **Badlands and Goshute Mountain Allotments Grazing Permit Renewal**

## **ENVIRONMENTAL ASSESSMENT**



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It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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**Cover Photo: Hoodoo in the Badlands** Photo taken by Bruce Thompson, Wells Field Office

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## 1 – INTRODUCTION

The Bureau of Land Management (BLM), Elko District, Wells Field Office proposes to renew the grazing permit for the Badlands and Goshute Mountain Allotments. (See Map #1). The Badlands Allotment is located in the extreme southeastern Elko County, Nevada, east of Alternate Highway 93, south of the Ibapah Road and approximately 45 miles south of Wendover, Nevada. The north boundary of the allotment borders the Utah/Nevada South Allotment; the White Pine County Line and the Goshute Mountain Allotment serve as the southern boundary. The Utah State Line lies to the east, and Antelope Valley Allotment lies to the west.

The Goshute Mountain Allotment is directly south of the White Pine County Line and west of the Utah State Line, bordering the south boundary of the Badlands Allotment. The allotment lies within the Ely District.

An administrative agreement signed in 1983 between the Ely and Elko District Offices states that grazing administration for the Goshute Mountain Allotment will be the responsibility of the Elko District Office. Grazing administration includes the responsibility of grazing supervision, conducting range studies, project development and the determination of grazing capacity.

This Environmental Assessment (EA) has been prepared for compliance with the National Environmental Policy Act of 1969 (NEPA). This EA tiers to the 1983 Draft and 1985 Final Environmental Impact Statement (EIS) for the Wells Resource Management Plan (RMP) and 2008 Ely District ROD and Approved RMP (BLM 2008a, c). These documents are available from the Elko District web page at [www.blm.gov/rv5c](http://www.blm.gov/rv5c) and the Ely District Office web page at [http://www.blm.gov/nv/st/en/fo/ely\\_field\\_office/blm\\_programs/planning/approved\\_plan\\_and.ht](http://www.blm.gov/nv/st/en/fo/ely_field_office/blm_programs/planning/approved_plan_and.ht) ml.

### Background

The Badlands Allotment encompasses 19,812 public acres. The Goshute Mountain Allotment has a total of 5,736 public acres. Both allotments are licensed at 100 percent public land (see Map #1). There are no range improvements within the Badlands and Goshute Mountains Allotments (see Map #2). However, portions of the allotment boundaries are fenced.

The elevation of the two allotments ranges from 5,280 to 6,300 feet. The topography consists of rolling hills and valley floors. Most of the Badlands and Goshute Mountain Allotments are dominated by black sagebrush communities. However, the eastern portion of the Badlands is dominated by white sage (also known as winterfat) communities.

An allotment evaluation was completed for the two allotments on July 21, 1997, and it was determined that although Standard 1 (Upland Sites) and Standard 3 (Habitat) were not being met in the Badlands and Goshute Mountain Allotments progress was being made toward attainment of these Standards for Rangeland Health. Livestock grazing was determined to be a casual factor in the non-attainment of both the Upland and Habitat standard for the Badlands and Goshute Mountain Allotments.

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The Elko District Office/Wells Field Office issued a Final Multiple Use Decision (FMUD) for the Badlands and Goshute Mountain Allotments on June 18, 1998, implementing the management actions identified in the evaluation (available for review at the Wells District Office). The FMUD reduced the carrying capacity of the Badlands Allotment from 2,647 AUMs to 1,018 AUMs. The FMUD for the Badlands and Goshute Mountain Allotments is available at the Wells Field Office.

### *2009 Draft Rangeland Health Standards and Guidelines Assessment:*

On June 10, 2009, a Draft Standards and Guidelines Assessment was sent to the public for review and comment for the Badlands and Goshute Mountain Allotments. The 2009 Draft assessment concluded that all Standards for Rangeland Health were being met. No comments were received. The 2009 Badlands and Goshute Mountain Standards and Guidelines Assessment can be found at: [http://www.blm.gov/nv/st/en/fo/elko\\_field\\_office/blm\\_programs/grazing.html](http://www.blm.gov/nv/st/en/fo/elko_field_office/blm_programs/grazing.html) Following completion of this EA, the Draft Standards and Guidelines Assessment will be made Final and a Proposed and Final and Final Grazing Decision will be issued.

Since issuance of the 1998 FMUD, the grazing permittee's term grazing permit had been renewed in accordance with the Appropriation Act language and in conformance with the terms and conditions outlined in the Badlands and Goshute Mountain Allotments FMUD. Once this current NEPA analysis for the proposed changes to permitted livestock use is completed and a grazing decision is issued, renewal of the permit for the Badlands and Goshute Mountain Allotments would be fully processed.

### **1.1 Purpose and Need**

The need for action is to fully process the renewal of the term grazing permit for Authorization # 2701064 on the Badlands and Goshute Mountain Allotments in accordance with all applicable laws, regulations, and policies. The grazing permit would be renewed for a period not to exceed ten years, with terms and conditions for grazing use that would continue to meet, or make significant progress toward meeting, the Standards and Guidelines for Rangeland Health, Resource Management Plan, and other pertinent multiple use objectives for the allotment. Title 43 of the Code of Federal Regulations (CFR) Section § 4130.2(a), effective March 24, 1995, states, "Grazing permits or leases shall be issued to qualified applicants to authorize use on the public lands and other lands under the administration of the Bureau of Land Management that are designated as available for livestock grazing through land use plans." The current permit holder (Authorization #2701064) meets all of the qualifications to graze livestock on public lands administered by the BLM.

The Nevada Northeastern Great Basin Resource Advisory Council (RAC), as chartered by the Department of Interior to promote healthy rangelands, has developed Standards and Guidelines for grazing administration. The RAC intends that the Standards and Guidelines will result in a balance of sustainable development and multiple uses along with progress towards attaining healthy and properly functioning rangelands. A thorough discussion of Standards and Guidelines is presented in the BLM Handbook H-4180-1 (Rangeland Health Standards). The Northeastern Great Basin RAC Standards and Guidelines are available for public review on the Nevada BLM web site ([www.blm.gov/nv](http://www.blm.gov/nv)) or at the Elko District, Wells Field Office.

Historically, grazing on the allotment has occurred from November 1 to March 31. The livestock season of use occurs primarily during the dormant season for the key species within the area. The season of use allows associated wildlife species to utilize the allotment for nesting and fawning with no direct disturbance by livestock. The predominant plant communities in the Badlands and Goshute Mountain Allotments are composed of species appropriate to the sites.

### 1.2 Relationship to Laws, Policies and Land Use Plans

The Federal Land Policy and Management Act of 1976 (FLPMA) requires an action under consideration to be in conformance with the applicable BLM land use plan and be consistent with other federal, state, local and tribal policies to the maximum extent possible.

#### 1.2.1 BLM Land Use Plan Conformance

The proposed action and alternatives conform to the decisions and objectives of the Wells Resource Management Plan (RMP), approved July 16, 1985. The livestock management objective from the RMP, page 20, is to, *“Maintain or improve the condition of the public rangelands to enhance productivity for all rangeland values.”*

An administrative agreement signed in 1983 between the Ely and Elko District Offices states that grazing administration for the Goshute Mountain Allotment will be the responsibility of the Elko District Office. Grazing administration includes the responsibility of grazing supervision, conducting range studies, project development and the determination of grazing capacity. The proposed action and alternatives for the Goshute Mountain Allotment conform to the decisions and of the 2008 Ely District ROD and Approved RMP (BLM 2008a).

In 1987, the Elko District issued a Rangeland Program Summary (RPS) that established allotment-specific objectives for the Badlands allotment (BLM, 1987). The proposed action is further consistent with meeting the allotment-specific short and long term management objectives from the 1998 FMUD, RPS, and subsequent policy for the Badlands and Goshute Mountain Allotments. As summarized above, this includes conformance with the Northeastern Great Basin Area of Nevada approved on February 12, 1997.

1. Upland Sites: Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and land form.
3. Habitat: Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, meet the life cycle requirements of threatened and endangered species.
4. Cultural Resources: Land use plans will recognize cultural resources within the context of multiple use.
5. Wild Horses and Burros: Wild horses and burros exhibit characteristics of a healthy, productive, and diverse population. Age structure and sex ratios are appropriate to maintain the long term viability of the population as a distinct group. Herd management areas are able to provide suitable feed, water, cover and living space for wild horses and burros and maintain historic patterns of habitat use.



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The 2009 Draft Standard and Guidelines Determinations indicate that the terms and conditions implemented through the 1998 FMUD, including the grazing system and season of use are continuing to meet rangeland health standards for upland, habitat, cultural, and wild horses (Standards #1, 3, 4, and 5). Standard #2 is not applicable in the Badlands and Goshute Mountain Allotments as there are no perennial waters or riparian areas.

### 1.2.2 Consistency with Non-BLM Authorities

The proposed action is further consistent with the Elko County Public Land Use & Natural Resource Management Plan (December 2010) and the White Pine County Public Lands Policy Plan (August, 2007).

### Review of Statutory or Regulatory Authorities

The following table identifies elements of the human environment that are regulated by a statutory or regulatory authority that would be affected and are analyzed in Chapter 3 of this EA, as well as those that BLM determined would not be affected.

**Table 1: Review of Statutory Authorities**

Element	Not Present	Present; Not Affected	Present; May Be Affected**	Reason element present but not affected, or where in this EA the issue is analyzed.
Air Quality		X		Grazing by sheep at proposed utilization levels would maintain vegetative cover to prevent fugitive dust.
Areas of Critical Environmental Concern	X			None present
Cultural Resources			X	See cultural resources discussion in Chapter 3.
Environmental Justice		X		No low income or minority population would be disproportionately affected by proposed renewal of the permit.
Farm Lands (prime or unique)	X			None present
Fish Habitat	X			Not applicable in the Badlands/Goshute Mountain Allotments as there are no perennial waters or riparian areas.
Floodplains	X			None present
Invasive, Nonnative Species			X	See chapter 3 discussion for Vegetation and Invasive, Nonnative Species, including noxious weeds
Migratory Birds			X	See chapter 3 discussion for Wildlife and Special Status Species.
Native American Religious Concerns		X		No concerns have been identified to date. Continued grazing is not expected to affect ongoing and future use of any sites of traditional, cultural and religious importance to tribes.
Threatened or Endangered Species			X	See chapter 3 discussion for Wildlife and Special Status Species.
Wastes, Hazardous or	X			None present



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Element	Not Present	Present; Not Affected	Present; May Be Affected**	Reason element present but not affected, or where in this EA the issue is analyzed.
Solid				
Water Quality (Surface/Ground)	X			Not applicable in the Badlands/Goshute Mountain Allotments as there are no perennial waters or riparian areas
Wetlands/Riparian Zones	X			Not applicable in the Badlands/Goshute Mountain Allotments as there are no perennial waters or riparian areas.
Wild and Scenic Rivers	X			None present
Wilderness	X			None present
Wild Horses			X	Antelope and Antelope Valley HMA's

## 2 – ALTERNATIVES

This chapter describes the Proposed Action and Alternatives. It also describes alternatives that BLM considered but eliminated from further analysis in this EA.

Based on the draft allotment standards and guidelines assessment prepared in 2009, BLM recommends active permitted grazing use should remain at 1,018 AUMs in the Badlands Allotment and 465 in Goshute Mountain Allotment with no changes to the use periods (November 1 to March 31).

### 2.1 Proposed Action

Under this alternative, the proposed action would include the same grazing system as the 1998 FMUD Grazing System. (See Table 2 below.) Sheep grazing would continue to be authorized as outlined in Subsection 2.1.1 and 2.1.2 below. The terms and conditions on the current permit would be brought forward with the only changes being that 1) the permittee would be billed based on submission of actual use data, and billing would be made after the end of the grazing season. 2) All hay for the use in and around sheep camps must be certified weed free prior to livestock turnout. 3) Sheep bedding areas would only be located in areas approved by the authorized officer. Sheep may not be bedded in the same location more than seven consecutive days before being moved. Once moved, the next bedding area may not be within 1/4-mile of the last bedding area.

#### 2.1.1 Grazing System

The currently permitted active livestock grazing preference is for sheep use only.

The active preference for the Badlands and Goshute Mountain Allotments would remain at 1,018 for the Badlands Allotment and 465 for the Goshute Mountain Allotment, with use dates from November 1 to March 31. Permitted use would be as outlined in Table 2.

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**Table 2. Permitted Use as Outlined on the Term Grazing Permit**

Allotment	Livestock Numbers	Begin	End	Percent Public Land %	Type Use	AUMs
Badlands	1,065	11/01	3/31	100	Active	1,018
Goshute Mountain	468	11/01	3/31	100	Active	465

Table 3 outlines key area objectives for the Badlands and Goshute Mountains Allotments.

**Table 3. Key Area Objectives for the Badlands and Goshute Mountains Allotments**

Allotment	Key Area	Allowable Use %
Badlands	BA-01	ORHY – 60% EULA5– 50%
Badlands	BA-02	ORHY – 60% ARNO – 50%
Goshute Mountain	KA-01	ORHY – 60% ARNO – 50%
Indian ricegrass – ORHY White sage – EULA5 Black sagebrush - ARNO		

### 2.1.2 Terms and Conditions

- Flexibility will be allowed on the Badlands and Goshute Mountain Allotments as outlined in the following:
  - ✓ The number of livestock to be grazed will remain flexible according to the needs of the permittee. Livestock numbers listed on this permit are based on the maximum number of AUMs that may be removed from each allotments for the period specified.
  - ✓ An annual operating plan, livestock numbers and periods of use and specific management practices appropriate for maintaining progress towards attainment of multiple use objectives and standards for rangeland health will be approved by the BLM prior to turnout.
  - ✓ Deviations in time and conditions outlined above will be allowed to meet the needs of the permittee as long as these deviations are consistent with the multiple use objectives. Deviations, including any changes in licensed use or adjustments in the terms and conditions outlined above, will require submission of a written application and written authorization from the Authorized Officer.
- No billing or receipt will be issued prior to use. Actual Use must be submitted to the BLM within 15 days after livestock are removed from the allotments. One billing notice based on actual use will be prepared and issued within two weeks after the actual use is received.

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- All hay for the use in and around sheep camps must be certified weed free prior to livestock turnout.
- Sheep may not bed in the same location more than seven consecutive days before being moved. Once moved, the next bedding area may not be within ¼ mile of the last bedding area.
- Water hauling will continue on all existing roads within the Badlands and Goshute Mountain Allotments to improve livestock distribution.
- Actual use data on all pastures must be submitted to this office within 15 days from the last day of use. A grazing bill will be prepared after the grazing season based on actual use.
- Supplemental feeding is limited to salt, mineral and/or protein supplements in block, granular or liquid form. Such supplements must be placed at least ¼ mile from live waters (springs, streams), troughs, wet or dry meadows, and aspen stands.
- Pursuant to 43 CFR 10.4 (G), the holder of this authorization must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4 (C) and (D), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.
- The Terms and Conditions of your permit may be modified if additional information indicates that revision is necessary to conform to 43 CFR 4180.

### **2.1.3 Monitoring**

BLM would continue to monitor livestock grazing use to insure that the multiple use objectives are being met. The collection of actual use data is essential to the monitoring and evaluation effort. The permittee would be required to submit an actual use report by pasture/use area to the Wells Field Office annually after livestock use.

## **2.2 Re-Issue the Existing Permit with No Changes (No Action Alternative)**

Under the no action alternative, the BLM would reissue the permit with the same terms and conditions as outlined on the current permit for the Badlands and Goshute Mountain Allotments. This would not include after the fact billing.

### **2.2.1 Terms and Conditions**

- Grazing would be in accordance with the Final Permit Renewal Decision for the Badlands and Goshute Mountain Allotments dated June 18, 1998.

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- Flexibility will be allowed on the Badlands and Goshute Mountain Allotments as outlined in the following:
  - ✓ The number of livestock to be grazed will remain flexible according to the needs of the permittee. Livestock numbers listed on this permit are based on the maximum number of AUMs that may be removed from each allotments for the period specified.
  - ✓ An annual operating plan, livestock numbers and periods of use and specific management practices appropriate for maintaining progress towards attainment of multiple use objectives and standards for rangeland health will be approved by the BLM prior to turnout.
  - ✓ Deviations in time and conditions outlined above will be allowed to meet the needs of the permittee as long as these deviations are consistent with the multiple use objectives. Deviations, including any changes in licensed use or adjustments in the terms and conditions outlined above, will require submission of a written application and written authorization from the Authorized Officer.
- Water hauling would continue on all existing roads within the Badlands and Goshute Mountain Allotments to improve livestock distribution.
- Actual use data on all pastures must be submitted to this office within 15 days from the last day of use.
- Supplemental feeding is limited to salt, mineral and/or protein supplements in block, granular or liquid form. Such supplements must be placed at least ¼ mile from live waters (springs, streams), troughs, wet or dry meadows, and aspen stands.
- Pursuant to 43 CFR 10.4 (G), the holder of this authorization must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4 (C) and (D), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.
- The Terms and Conditions of your permit may be modified if additional information indicates that revision is necessary to conform to 43 CFR 4180.

### **2.3 Alternatives Eliminated from Further Analysis**

#### **No Grazing Alternative**

Under this alternative, no grazing would be authorized in the Badlands and Goshute Mountain Allotments. The term grazing permit would not be renewed. This EA tiers to the analysis in the 1983 EIS for the Wells RMP, which analyzed five livestock use alternatives. Although upland and wildlife habitat would likely be enhanced at a faster rate under a scenario of no livestock use,

the BLM is required to authorize only those actions that conform to the RMP as approved in the Wells Record of Decision (ROD). The Wells RMP establishes, among other things, that the Badlands and Goshute Mountain Allotments are to provide for livestock grazing use, and that livestock grazing use is to be managed so that resource management objectives will be achieved. The 1985 Wells RMP and Rangeland Program Summary (RPS) established objectives for livestock grazing and provides for the establishment of a rangeland monitoring program to determine if management objectives are being met and to adjust grazing management systems and livestock numbers as required. Elimination of livestock grazing in lieu of making changes to the grazing systems and adjusting livestock numbers through monitoring is an action not in conformance with the RMP and RPS and is not considered by BLM to be a reasonable alternative for analysis in this EA. In addition, monitoring data show that significant progress towards achieving the Standards and Guidelines for Rangeland health is being made with livestock present on the allotment as currently permitted. Therefore 43 CFR § 4130.2(a) and § 4130.2(e)(3) requires the issuance of grazing permits to qualified applicants that accept the proposed terms and conditions of the permit or lease. The Badlands and Goshute Mountain Allotments are currently meeting the *Northeastern Great Basin Standards and Guidelines for Grazing Administration* as most recently determined in 2009 (BLM, 2009), so there is no compelling reason to consider allowing the grazing permit to expire.

### **3      AFFECTED ENVIRONMENT/EFFECTS OF ALTERNATIVES**

This chapter characterizes the resources and uses that have the potential to be affected by the proposed action, followed by a comparative analysis of the direct, indirect and cumulative impacts of the alternatives. Direct effects are caused by the action and occur at the same time and place. Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.

#### **3.1    Scope of Analysis**

##### **Setting**

The Badlands and Goshute Mountain Allotments lie in a portion of Elko County known as the Badlands. The area affected by the proposed action varies by resource, but is generally bounded by the Utah State line in the east, Antelope Valley to the west, White Pine County and the Utah/Nevada South Allotment serves as the northern boundary.

The Badlands Allotment is located in extreme southeastern Elko County, Nevada; east of Alternate Highway 93, south of the Iapah Road, approximately 45 miles south of West Wendover, Nevada. The north boundary of the allotment borders the Utah/Nevada South Allotment, and the White Pine County Line and the Goshute Mountain Allotment serve as the south boundary. The Utah State Line lies on the east and Antelope Valley Allotment to the west.

The Goshute Mountain Allotment lies directly south of the White Pine County line. The Badlands Allotment encompasses 19,812 public acres. The Goshute Mountain Allotment has a total of 5,736 public acres. Both allotments are licensed at 100 percent public land (see Map #1).

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The elevation of the two allotments ranges from 5,280 to 6,300 feet. The topography consists of rolling hills and valley floors. Most of the Badlands and Goshute Mountain Allotments are dominated by black sagebrush communities. However, the eastern portion of the Badlands is dominated by white sage communities. The average annual precipitation for the Badlands and Goshute Mountain Allotments is 5-7 inches. Most of this precipitation comes in the winter months in the form of snow occurring primarily in the winter and spring with the summers being quite dry.

There are no perennial waters or riparian areas in the Badlands and Goshute Mountain Allotments. The permittee hauls water along existing roads or uses snow cover to water livestock. When the permittee is not grazing there is no water in the allotments.

### 3.1.1 Potentially Affected Resources and Uses and Cumulative Effects Study Area

As defined by NEPA regulations (40 CFR § 1508.7), “Cumulative impacts result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions (PPRFA) regardless of what agency (Federal or non-Federal) or person undertakes such other actions.”

The Council on Environmental Quality (CEQ) regulations define cumulative impacts as: “[T]he impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or Non-Federal) or person undertakes such actions.”

For each resource or use that is potentially affected by the proposed action, a cumulative effects study area (CESA) has been delineated. These specific areas are outlined in Table 4 below.

The BLM Handbook states, “The geographic scope of cumulative effects will often extend beyond the scope of the direct effects, but not beyond the scope of the direct and indirect effects of the proposed action and alternatives.” (BLM 2008b)

For the majority of resources, the combined area of the two allotments serves as the CESA and has been referred to as the “General CESA” throughout the remainder of this document.

**Table 4. Cumulative Effects Study Area (CESA)**

Subsection #	ELEMENT/RESOURCE/USE	CESA Area
3.2.1	Vegetation and Invasive Non-Native Species	Allotment Boundaries
3.2.2	Soils	Allotment Boundaries
3.2.3	Livestock Grazing	Allotment Boundaries
3.2.4	Wild Horses	Antelope and Antelope Valley HMAs

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3.2.5	Migratory Birds Special Status Species Wildlife – Small Mammals	General Wildlife CESA
3.2.5	Big Game	Antelope CESA
3.2.6	Cultural Resources	Allotment Boundaries

### *Vegetation, Invasive Non-native Species, Livestock Grazing, Soils, and Cultural Resources*

The CESA was selected because the scope of the proposed action and alternatives has been identified as the area within the allotment boundaries.

### *Wild Horses*

For wild horses the HMA boundaries are considered the CESA boundary as wild horses move to and from the allotments and to and from the HMAs.

### *Migratory Birds, Special Status Species, and Small Mammals*

For Migratory Birds, Special Status Species, and Small Mammals the CESA was determined by BLM and NDOW specialist and mainly encompasses the watershed surrounding the allotments. The majority of the species that utilize the allotments are contained within the watershed boundaries. More mobile species such as raptors and coyotes can and will travel outside the CESA boundary area, but significant parts of their lifecycles occur within the watershed confines.

### *Big Game*

For big game the CESAs were determined by BLM and NDOW and include contiguous areas that provide very important seasonal habitat for wildlife species such as pronghorn and elk. The Big Game CESA was developed to assess impacts from grazing activities and other actions to the Area 078, 105-107, 121-Southeastern Elko County antelope herds that reside in Nevada in the summer and winter ranges as well as the migration corridors that exist between the two habitat types. To accomplish this, the entire range that antelope herds utilize in their annual life cycle within the vicinity of the allotments was used as the basis for the CESA boundary.

The majority of the antelope herd that stays in the vicinity of The Badlands area utilizes portions of Antelope Valley, Ferber Hills, Ferguson Flats and Spring Creek Flats in White Pine County for most of the year. During the fall there is a general movement from the valleys and flats to the low hills present within the allotments. Map #5 shows the antelope CESA.

### **3.1.2 Past, Present, and Reasonably Foreseeable Future Actions**

Past, present, and reasonably foreseeable future actions related to the analysis of cumulative impacts on resources or uses affected by the Proposed Action are discussed below.



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### *Livestock Grazing*

Grazing of domestic cattle, sheep and horses has occurred on public and private lands in the area since at least the 1860's and it is reasonably foreseeable for livestock grazing to continue at or near current levels. There are several activities associated with livestock grazing that have, do, and will most likely continue to occur within and near the Badlands and Goshute Mountain Allotments. These include on and off-highway vehicle (OHV) travel, installation and, feeding of mineral and protein supplements, and hauling. Livestock grazing is discussed in further detail below in Subsection 3.2.1.

There are approximately 11 Nevada BLM-administered grazing allotments that are within or overlap the Wildlife CESAs. Range improvements within the Wildlife CESAs include wells/storage tanks, reservoirs, fences, and noxious weed treatments.

### *Fire*

Although wildfire is not an action, it can result in incremental impacts when added to past, present, and reasonably foreseeable actions. There have been no historic wildfires recorded within the Badlands and Goshute Mountain Allotments from 1984 to 2007. Fires have been relatively few within the cumulative impact study areas as compared to the rest of Elko district. The majority of the recorded fires were small lightning strikes associated with precipitation and burned less than five hundred acres each. (Only 6,200 acres have burned within the wildlife CESA from 1984-2007 which is the largest CESA for this project.) Minor wildfires occurring infrequently are a reasonably foreseeable action.

### *Recreation*

Past and present recreational uses primarily include dispersed recreation activities such as hunting, fishing, camping, nature-viewing and on and off-highway vehicle (OHV) travel. It is reasonably foreseeable for recreation to continue at or near current levels.

### *Minerals Related Activities*

Some mineral (mining) leasing, exploration, and developmental (Kingsley Mine) activity has occurred in the past in the vicinity of (but not within) the Badlands and Goshute Mountain Allotments is expected to continue at current levels. Gold, silver, copper, and lead were mined within the historic Ferber and Ferguson Spring mining districts, which are located on BLM lands. When the Kingsley mine closed the mine area was reclaimed. In 2010, additional reclamation was done to enhance vegetative diversity at the site. These treatments located within the Kingsley Mountains to the west of the allotments were performed for wildlife habitat enhancement on an old mine site and was not a range improvement to assist the grazing operator in livestock management. Approximately 47 acres have been treated.

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## Badlands and Goshute Mountain Allotments Grazing Permit Renewal

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### *Rights-of-Way*

ROWs that have been approved in the areas near the allotments include the following: irrigation and water facilities; telephone; material sites; federal roads; communication; power lines; roads, other federal ROWs; and other (undefined) ROWs. The acreage of surface disturbance associated with these ROWs (>1 percent) cannot be quantified; however it is assumed that these types of ROWs and the construction and maintenance associated with these facilities would create a level of surface disturbance that would contribute to cumulative impacts to various resources. In addition, certain types of ROWs can fragment habitat or create barriers or hazards for wildlife passage.

### *Cultural Resources*

Because BLM issues permits for grazing within allotments, this activity is an undertaking that requires compliance with Section 106 of the National Historic Preservation Act, as implemented in Nevada using the current Protocol between the BLM and State Historic Preservation Office. Compliance with the NHPA requires the BLM to determine whether historic properties (i.e., cultural resources eligible for listing on the National Register of Historic Places) will be affected by the undertaking and to minimize the effects, usually through avoidance.

### *Climate Change*

Although climate change is not an action, it can result in incremental impacts when added to past, present, and reasonably foreseeable actions. Predictions associated with climate change, identified during a literature review for impacts that could occur within the Elko BLM District include an increase in temperature and a change in amounts of precipitation.

A temperature increase of 1 to 2° F is predicted (Karl et al., 2009) between now and 2020, which may lead to:

- earlier snow melt and onset of spring (Stewart et al., 2005; Mote et al., 2005; Bernstein et al., 2007; Feng & Hu, 2007; Barnett et al., 2008),
- longer growing season for forage production (Bernstein et al., 2007), but potentially of lower quality forage (Karl et al., 2009),
- an increase in evapotranspiration (Hamlet & Lettenmaier, 2007),
- the threat of an increase for diseases, insects, and non-native and noxious species (Chambers & Wisdom, 2009),
- a reduction in soil moisture for plants (Izaurrealde et al., 2011)
- an increase in drought frequency and severity (Bernstein et al., 2007),
- a likely increase to stream temperature in non-shaded riparian areas, and
- an increase in wildfires resulting from a combination of the above factors (Ehrenfeld, 2003; Norton et al., 2003).

Precipitation could vary from no change to as much as 15% less than current levels (Timmerman et al., 1999; Karl et al., 2009) suggesting the:

- potential for species shifting geographically to adapt to changing conditions (Crozier, 2003 and 2004; Inouye et al., 2000),

- mortality of species unable to adapt to changing conditions (Beever et al., 2003; Galbreath et al., 2009),
- increase of storm intensity (Bernstein et al., 2007),
- higher potential for floods and subsequent erosion on soils with high clay content (CCSP, 2008), and
- higher demand for water in urban, rural, and agricultural areas, as well as from increasing demands for diverted flow to areas like Las Vegas, Nevada (Deacon et al., 2007).

### **3.2 Effects of the Alternatives**

The degree to which resources/uses may be affected by the proposed activities are discussed in the following subsections. Each subsection includes discussion of the:

- (1) Affected Environment (current condition) of the resource or use
- (2) Effects (direct and indirect) of each alternative
- (3) Cumulative Impacts

#### **3.2.1 Livestock Grazing, Vegetation and Invasive Non-Native Species Affected Environment**

Most of the Badlands and Goshute Mountain Allotments are dominated by black sagebrush communities. However, the eastern portion of the Badlands Allotment is dominated by white sage communities. As noted in the 2009 Draft Standards and Guidelines Assessment, the rangeland health standards for uplands, wildlife habitat, and wild horses were being met. Vegetation is a significant component of each of these standards and evaluating whether or not they are being met.

The livestock season of use occurs primarily during the dormant season for the key species representative of the Badland and Goshute Mountain Allotments. The predominant plant communities in the Badlands and Goshute Mountain Allotments are composed of species appropriate to the sites. Although livestock impacts in the past have resulted in some isolated incidences of overuse of the key species the current carrying capacity, as established in the 1998 FMUD, is appropriate for the sites. The carrying capacity is allowing appropriate utilization levels to be realized which provides adequate forage and cover values for those wildlife species within the area. Utilization levels have never been exceeded at key area 1 (KA-01) in the Goshute Mountain Allotment. Although utilization levels were exceeded at both key areas BA-01 and BA-02 (Badlands Allotment) in 1999 it was attributed to unauthorized livestock use from a neighboring allotment and was corrected. Utilization levels were also exceeded at key area BA-02 in 2004 as a result of heavy snows which concentrated livestock in the western portion of the allotment.

The level of current livestock use as well as the season of use in the Badlands and Goshute Mountain Allotments as outline in the Proposed Action and Alternatives is expect to continue the attainment of specific allotment objectives and to continue meeting the Standards for Rangeland Health.

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## Badlands and Goshute Mountain Allotments Grazing Permit Renewal

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Cheatgrass is present in small spots throughout the allotments. Cheatgrass is not listed as a noxious weed species in Nevada, but is an invasive non-native annual weed of concern. Halogeton another annual invasive non-native weed is also found on disturbed areas in the allotment

There are no infestations of Nevada designated noxious weed species within the Badlands and Goshute Mountain Allotments.

### **Direct and Indirect Effects of Alternatives**

The continued implementation of the existing grazing system and season of use (Proposed Action and No Action) is expected to continue the attainment of specific allotment objectives and to continue meeting the Standards for Rangeland Health. Continued grazing during the dormant period is likely to lower the likelihood of spread of invasive non-native and noxious weeds in native vegetative communities.

#### Proposed Action

Under the Proposed Action Alternative the use of certified weed free hay would reduce the chance of introducing noxious weeds to the allotments. Limiting sheep to bedding at the same location would reduce the long term impacts to vegetation.

#### No Action

Under the No Action Alternative the use of non-certified weed free hay could increase the chances of introducing noxious weeds to the allotments. Under the No action Alternative would not include the stipulation which limits use of sheep bedding areas to seven days. If longer use were to occur, associated negative impacts to vegetation would also occur and with an increased likelihood of invasive weeds establishing on disturbed sites.

### **Cumulative Impacts**

Past, present, and reasonably foreseeable actions (PPRFFAs) include, livestock grazing within the allotments, periodic wild horse gathers within and adjacent to the allotments, dispersed recreation, (past, present, and reasonably foreseeable) and climate change (reasonably foreseeable). Climate change may result in gradual changes in quantity of precipitation and changes in vegetation as discussed in Section 3.1. While these activities may result in both positive and negative effects on livestock and their habitat, they have not and are not expected to result in cumulative impacts of concern.

Invasive weed seeds and plant parts may be transported into the Badlands and Goshute Mountain Allotments by numerous means. Invasive weeds seed have been and are expected to continue to be brought into the allotments on automobile and ATV tire treads. Birds and wildlife can transport weed seeds on hooves, coats and feces. Historic grazing likely contributed to the establishment of non-native species within the small localized areas within the allotments.

#### **3.2.2 Soils**

### **Affected Environment**

Soils within the Badlands and Goshute Mountain Allotments are Aridisols that vary in depth, texture, erosion potential, and other characteristics based upon several soil forming factors. These soils typically have a mesic or frigid temperature regime and aridic soil moisture regime. Most are well drained, are either moderately deep or very deep and have a coarse surface texture ranging from silt loam to cobbly loam. Some soils along drainage bottoms exhibit a fine sandy loam texture. Detailed information for soils within these allotments can be found in the Soil Survey of Elko County, Southeast Part.

Biological soil crusts are likely to be present within the allotment; however coverage is probably low. Most of the soil surface has a high percentage of rock fragments which reduces the coverage and influence of biological soil crusts. The small portion of soils which occur in alluvial areas however, do exhibit fine surface textures and may have developed a biological soil crust cover. In general, presence of these crusts increases soil cohesiveness and reduces the hazard of erosion by wind and water.

Field observations indicate that soil quality within the allotments is generally good. There have been no observations of erosion, compaction, disturbance or any other impact to soils which would negatively affect soil quality on the allotment scale. Some negative impacts occur on and near roads and areas of livestock concentration where soils are disturbed on a continuing basis. While soil quality is poor in these areas, they represent a very small portion of affected watersheds and do not affect watershed function.

### **Direct and Indirect Effects of Alternatives**

#### Proposed Action

No changes to soil quality would be expected under the proposed action. Soil quality would continue to be generally good because the impacts to soils would not change.

#### No Action

No changes to soil quality would be expected; however, the permit that would be issued under the No action Alternative would not include the stipulation which limits use of sheep bedding areas to seven days. If longer use were to occur, associated negative impacts to soil quality would also occur.

### **Cumulative Impacts**

The cumulative effects study area (CESA) is the Badlands and Goshute Mountain Allotments. This area was chosen because cumulative impacts would occur to soils where there are multiple land uses within these allotments. Past, Present, and reasonably foreseeable actions (PPRFFAs) such as recreation, and wild horse use along with natural conditions have not resulted in poor soil quality as described above in the Affected Environment for soils. There are no planned future actions which would impact soil quality; however, the effects of climate change may result in some impacts to soils in the long term. The alternatives in conjunction with PPRFFAs would not result in substantive cumulative impacts to soils.

### 3.2.3 Livestock Grazing

#### Affected Environment

The Badlands Allotment encompasses 19,812 public acres. The Goshute Mountain Allotment has a total of 5,736 public acres. Both allotments are licensed at 100 percent public land (see Map #1). There are no range improvements in the Badlands and Goshute Mountain allotments (see Map #2). The permittee hauls water along existing roads or uses snow cover to water livestock. When the permittee is not grazing livestock (sheep) in the allotments there is no water in the allotments.

The elevation of the two allotments ranges from 5,280 to 6,300 feet. The topography consists of rolling hills and valley floors. Most of the Badlands and Goshute Mountain Allotments are dominated by black sagebrush communities. However, the eastern portion of the Badlands is dominated by white sage communities.

The total permitted use for the Badlands Allotment is 1,018 AUMs and 465 AUMs for the Goshute Mountain Allotment. There is one permittee who is authorized on the two allotments (Permit Authorization No. 2701064). The kind of livestock, period of use, and the permitted AUMs are shown below.

**Table 5. Livestock Numbers and Season of Use**

Allotment	Livestock Numbers	Begin	End	Percent Public Land %	Type Use	AUMs
Badlands	1,065	11/01	3/31	100	Active	1,018
Goshute Mountain	468	11/01	3/31	100	Active	465

Livestock normally turn out late fall in November and are removed in early spring (end of March).

#### Direct and Indirect Effects of Alternatives

##### Proposed Action

One grazing permit would be renewed with one modified term and condition as outlined in Section 2.1. This modification would provide for after-the-fact billing. The number of permitted AUMs and season of use would remain the same as outlined above. The current grazing management has been in effect for many years, and it is proposed and reasonably foreseeable that the current grazing management practices remain unchanged.

The Proposed Action alternative would have a slight beneficial direct effect on the livestock grazing permittee's operation by providing some flexibility in their billing options through after-the-fact (end of the grazing season) billing. Finding certified weed free hay could be an extra cost to the permittee, but the long term impacts of using certified weed have would be positive. as it would reduce the risk of introducing noxious or undesirable plant species to the allotments

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Limiting sheep to bedding at the same location would reduce the long term impacts to vegetation.

### No Action

Under the No Action Alternative the use of non-certified weed free hay could decrease the chances of introducing noxious or undesirable weeds to the allotments. Under the No action Alternative would not include the stipulation which limits use of sheep bedding areas to seven days. If longer use were to occur, associated negative impacts to vegetation would also occur and with an increased likely hood of noxious or undesirable weeds establishing on disturbed sites.

The grazing permit would be renewed with no changes in the terms and conditions. The number of permitted AUMs and season of use would remain the same as outlined above. The current grazing management has been in effect for many years, and it is proposed and reasonably foreseeable that the current grazing management practices remain unchanged.

The No Action alternative would have no direct or indirect effect on livestock grazing.

### **Cumulative Impacts**

The CESA for Livestock Grazing is the Badlands and Goshute Mountains Allotments. The past, present, and reasonably foreseeable future actions within the CESA are minerals related activities and climate change (reasonably foreseeable), livestock grazing and dispersed recreation (past, present, and reasonably foreseeable). Climate change may result in gradual changes in quantity of precipitation and changes in vegetation as discussed in Section 3.1. While these activities may result in both positive and negative effects on livestock grazing, they have not and are not expected to result in cumulative impacts of concern.

### **3.2.4 Wild Horses**

#### **Affected Environment**

The Goshute Mountain Allotment is within the Antelope Herd Management Area (see Map #3). Wild horse use in the Goshute Mountain Allotment is considered to be incidental, and an appropriate management level (AML) of zero was established for the Goshute Mountain Allotment.

The Badlands Allotment is within the Antelope Valley Herd Management Area (HMA) (see Map #3). Inventory data have shown that less than 1% of the Antelope Valley herd uses the Badlands Allotment during the winter months.

The AML for the Badlands Allotment established in the Badlands and Goshute Mountain Allotments FMUD is 5 AUMs. The AML of 5 AUMs established for the Badlands Allotment would also accommodate incidental use in the adjacent Goshute Mountain Allotment. (Wild horses freely move between these two allotments since the allotment boundaries are unfenced.)

While there are no perennial water sources in the Badlands and Goshute Mountain Allotments, wild horses will trail to and from the two perennial water sources located west of the allotments.



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There are no fences to restrict the movement of wild horses between Alternate Hwy 93 and the Badlands and Goshute Mountain Allotments.

In the fall of 2010 an inventory flight found 21 wild horses in the Badlands Allotment. However, the AML for the Badlands allotment is only 5 AUMs.. In January-February 2011 the Antelope Complex Gather removed 172 wild horses from the eastern portion of the Antelope Valley HMA which is immediately adjacent to the Badlands and Goshute Mountain Allotments. The AML for that portion of the Antelope Valley HMA east of Alternate Highway 93 is 38 head.

As noted in the 2009 Draft Standards and Guidelines Assessment, the rangeland health standard for wild horses was being met.

### **Direct and Indirect Effects of Alternatives**

#### Proposed Action

The Proposed Action alternative would have slight beneficial direct effect for wild horses in the allotments. The use of non-certified weed free hay would decrease the chances of introducing noxious or undesirable weeds to the allotments which could impact forage available to wild horses.

Limiting the time that sheep are bedding at the same location would reduce the long term impacts to vegetation which would reduce impacts to vegetation sites in the allotments. This would also decrease the likely hood of noxious or undesirable weeds establishing on disturbed sites which could impact forage available to wild horses.

#### No Action

Implementation of the No Action could lead to an increased occurrence of noxious or undesirable weeds to the allotments which would reduce the amount of forage available to wild horses.

### **Cumulative Impacts**

Past, present, and reasonably foreseeable actions (PPRFFAs) include periodic wild horse gathers within and adjacent to the Badlands and Goshute Mountain Allotments, livestock grazing, dispersed recreation, (past, present, and reasonably foreseeable) and climate change (reasonably foreseeable). Climate change may result in gradual changes in quantity of precipitation and changes in vegetation as discussed in Section 3.1. While these activities may result in both positive and negative effects on wild horses and their habitat, they have not and are not expected to result in cumulative impacts of concern.

### **3.2.5 Wildlife, Special Status Species and Migratory Birds**

#### **Affected Environment for General Wildlife**

The wildlife species that inhabit the Badlands and Goshute Mountain Allotments are typical of the arid/semi-arid environment in the central Great Basin. Wildlife species detected in the allotments include insects, reptiles, birds, raptors, and mammals. No perennial, ephemeral or

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intermittent streams and no fish habitat occur in these allotments. There are two vegetation cover types located within the allotments. The vegetation cover types include pinyon-juniper forest and sagebrush shrub land. Black sage and white sage shrub land and pinyon -juniper are the most common vegetation communities. A variety of terrestrial wildlife species are associated with these upland communities, with greater species diversity occurring in areas exhibiting greater vegetative structure and soil moisture.

Available water for wildlife consumption is limited in the allotments. Normally water sources, particularly those that maintain open water and a multi-story canopy, support a greater diversity and population density of wildlife species than any other habitat types. However, the Badlands and Goshute Mountain Allotments have no riparian/wetland habitat or spring sources.

A diversity of nongame species (e.g., small mammals, passerines, raptors, and reptiles) occupies a wide range of trophic levels and habitat types in the Badlands and Goshute Mountain Allotments. Information regarding wildlife species and habitat found within the allotments and CESAs was obtained from a review of existing published sources, BLM, NDOW, and USFWS file information, as well as NNHP database information.

### *Reptiles*

The following reptiles may be present in the allotments: common side-blotch lizard (*Uta stansburiana*); western fence lizard (*Sceloporus occidentalis*); Great Basin skink (*Emueces skiltonianus utahensis*); Great Basin whiptail (*Cnemidophorus tigris*); mountain (or Greater) short-horned lizard (*Phrynosoma hernandesi*); Striped whipsnake (*Masticophis taeniatus*); Great Basin rattlesnake (*Crotalus viridis lutosus*); Long nosed snake (*Rhinocheilus lecontei*); Desert horned lizard (*Phrynosoma platyrhinos*); Great Basin Gopher snake (*Pituophis cantenifer deserticola*); Ground snake (*Sonora semiannulata*); Night snake (*Hypsiglena torquata*); and sagebrush lizard (*Sceloporus graciosus*).

### *Birds*

Nongame birds encompass a variety of passerine and raptor species including migratory bird species that are protected under the Migratory Bird Treaty Act (MBTA) (16 USC 703-711) and Executive Order (EO) 13186 (66 Federal Register [FR] 3853); see Migratory Birds, below for further details. Passerine or songbird species occupy the entire range of habitats found within the allotments. The following common bird species have been detected in the Project Area: American crow (*Corvus corax*); American goldfinch (*Carduelis tristis*); American robin (*Turdus migratorius*); American tree sparrow (*Spizella arborea*); ash-throated flycatcher (*Myiarchus cinerascens*); black-billed magpie (*Pica pica*); black-headed grosbeak (*Pheucticus melancephalus*); Black Rosy finch (*Leucosticte atrata*); black-throated gray warbler (*Dendroica nigrescens*); black-throated sparrow (*Amphispiza bilineata*); blue-gray gnatcatcher (*Polioptila caerulea*); Brewer's blackbird (*Euphagus cyanocephalus*); Brewer's sparrow (*Spizella breweri*); brown-headed cowbird (*Molothrus ater*); bushtit (*Psaltiriparus minimus*); Calliope hummingbird (*Stellula calliope*); canyon wren (*Catherpes mexicanus*); cedar waxwing (*Bumbycilla cedrorum*); chipping sparrow (*Spizella passerina*); Clark's nutcracker (*Nucifraga columbiana*); cliff swallow (*Petrochelidon pyrrhonota*); common poorwill (*Phalaenoptilus nuttallii*); common raven (*Corvus*

corax); common yellowthroat (*Geothlypis trichas*); dark-eyed junco (*Junco hyemalis*); gray flycatcher (*Empidonax wrightii*); fox sparrow (*Passerella iliaca schistacea*); Gray vireo; green-tailed towhee (*Pipilo chlorurus*); horned lark (*Eremophia alpestris*); house finch (*Carpodacus mexicanus*); juniper titmouse; lark sparrow (*Chondestes grammacus*); Lazuli bunting (*Passerina amoena*); Lewis' woodpecker (*Melanerpes lewis*); lesser goldfinch (*Carduelis psaltria*); loggerhead shrike; mourning dove (*Zenaidura macroura*); mountain bluebird (*Sialia currucoides*); Nashville warbler (*Vermivora ruficapilla*); northern flicker (*Colaptes auratus*); orange-crowned warbler (*Vermivora calata*); plain titmouse (*Parus inornatus*); piñon jay; red-winged blackbird (*Agelaius phoeniceus*); red-naped sapsucker (*Sphyrapicus nuchalis*); red-shafted flicker (*Colaptes auratus*); rock wren (*Salpinctes obsoletus*); sage grouse (*Centrocercus urophasianus*); sage sparrow (*Amphispiza belli*); sage thrasher (*Oreoscoptes montanus*); savannah sparrow (*Passerculus sandwichensis*); Say's phoebe (*Sayornis saya*); Scott's oriole (*Icterus parisorum*); song sparrow (*Melospiza melodia*); spotted towhee (*Pipilo maculatus*); Townsend's solitaire (*Myadestes townsendi*); vesper sparrow; Virginia's warbler (*Oreothlypis virginiae*); warbling vireo (*Vireo gilvus*); western bluebird (*Sialia mexicana*); western meadowlark (*Sturnella neglecta*); white-throated swift (*Aeronautes saxatalis*); Wilson's warbler (*Wilsonia pusilla*); yellow-breasted chat (*Icteria verens*); yellow warbler (*Dendroica petechial*); grey partridge (*Perdix perdix*), chukar (*Alectoris chukar*), common nighthawk (*Chordeiles minor*); western scrub jay (*Aphelocoma californica*); and western tanager (*Piranga ludoviciana*). Many of these species are BLM special status species and are discussed in the Special Status Species section.

### *Raptors*

The following raptors species were observed within the allotments: American kestrel (*Falco sparverius*); burrowing owl; Cooper's hawk (*Accipiter cooperii*); great horned owl (*Bubo virginianus*); prairie falcon; red-tailed hawk (*Buteo jamaicensis*); rough-legged hawk (*Buteo lagopus*); northern goshawk (*Accipiter gentilis*); sharp-shinned hawk (*Accipiter striatus*); long-eared owl (*Asio otus*); bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*); Swainson's Hawk (*Buteo swainsoni*), Ferruginous hawk (*Buteo regalis*) and turkey vulture (*Cathartes aura*). Many of these species are BLM special status species and are discussed in the Special Status Species section.

Appropriate foraging habitat for all of the aforementioned raptor species occurs within the allotments. Two ferruginous hawk nests are recorded in the southwest section of the Badlands Allotment. Appropriate nesting habitat of open ground and shrubs occur in the allotments for ground nesting species such as the burrowing owl. Appropriate nesting habitat for Cooper's hawks, Swainson's hawks, ferruginous hawks, and long-eared owls of Juniper trees occurs within the allotments. Appropriate nesting habitat for great horned owl of trees, rocky ledges, and artificial platforms occur within the allotments. Appropriate nesting habitat for red-tailed hawks, rough legged hawks, golden eagles, and prairie falcons of tall trees and cliffs occurs within the Badlands Allotment. Appropriate nesting habitat for turkey vulture of trees, snags, and ground occur within the allotments. Northern goshawks and sharp-shinned hawks may nest in some of the thicker stands of juniper on the allotments, but mainly they utilize the area for foraging from the Kinsley and Wildhorse mountain areas. Bald eagles are winter foragers over the allotments.

### *Mammals*

Common mammal species such as coyote (*Canis latrans*), kit fox (*Vulpes macrotis*), American badger (*Taxidea taxus*), cougar (*Puma concolor*) bobcat (*Lynx rufus*) desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), pygmy rabbit (*Brachylagus idahoensis*), cliff chipmunk (*Tamias dorsalis*), white-tailed antelope squirrel (*Ammospermophilus leucurus*), ground squirrels (*Spermophilus* spp.) woodrats (*Neotoma* sp.), deer mouse (*Peromyscus maniculatus*), Little pocket mouse (*Perognathus longimembris*), Great Basin pocket mouse (*Perognathus parvus*), dark kangaroo mouse (*Microdipodops megacephalus*), Ord kangaroo rat (*Dipodomys ordii*), western harvest mouse (*Reithrodontomys megalotis*), canyon mouse (*Peromyscus crinitus*), piñon mouse (*Peromyscus truei*), northern grasshopper mouse (*Onychomys leucogaster*), long-tailed vole (*Microtus longicaudus*), sagebrush vole (*Lemmys curtatus*), western jumping mouse (*Zapus princeps*), shrews (*Sorex* spp.), and bats species which are discussed in the special status section occur within the allotments. These species have been detected within the allotments either directly or by observation of tracks, scat, carcass, prey remains, burrow, or other sign.

### *Game Species*

Big game species that occur within the allotments include mule deer (*Odocoileus hemionus*), Rocky Mountain elk (*Cervus canadensis*) and pronghorn antelope (*Antilocapra americana*). The Badlands Allotment is in the Nevada Division of Wildlife's (NDOW) hunt unit 106. The NDOW conducted post-season survey flights of the Northeastern Elko County area, Unit 105 through 108 in January 2010. A total of 7,739 mule deer was classified during the survey with a resulting ratio of 24 bucks to 100 does to 44 fawns (NDOW 2010). Spring surveys were flown in late March and early April, 2011. A total of 9,407 mule deer was classified during the survey, yielding a ratio of 31 fawns to 100 adults. Although over-winter survival was good for fawns this winter, fawn ratios going into the winter were below average. This year's recruitment rate of 31 fawns to 100 adults is 6 percent higher than last year's population estimate. The increase is likely a result of good spring and summer precipitation and a relatively mild winter resulting in increased fawn recruitment. Until last year, where the recruitment rate dipped to 20 fawns to 100 adults, population estimates in Area 10 had increased for 7 of the last 8 years.

The Badlands and Goshute Mountain Allotments only see incidental use by mule deer throughout the year. Mule deer scat, tracks, and disarticulated skeletal remains may be observed throughout the allotments. Throughout the western U.S., big game relies on seasonal ranges to satisfy their annual nutritional and energetic requirements (Sawyer et al. 2005). Because seasonal ranges often occur great distances apart and across a mix of vegetation types and land ownership, maintaining migration corridors is often difficult and is considered a top priority by state game agencies (Sawyer et al. 2005). There are no migration corridors in or near the Badlands or Goshute Mountain Allotments.

Pronghorn antelope occur year round throughout the allotments. Crucial wintering habitat makes up most the allotments' antelope habitat type (see Map #6). The allotments fall within pronghorn antelope Hunt Units 078, 105-107, 121-Southeastern Elko County (NDOW 2010). Survey efforts for this unit group were reduced compared to the previous year. A total of 215 animals were

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classified in mid-January, yielding sex and an age ratio of 22 bucks: 100 does: 32 fawns. Despite the above average fawn ratio observed in the 078, 105-107, 121 unit group this year, the 2011 population estimate of approximately 1,000 pronghorn reflects a 17% decline over last year's estimate. This decline was a result of a model adjustment based on a historic winter mortality event (1992-1993) which had originally been underestimated. Although increased mortality rates were applied to the model for the winter of 1992-1993, this population continues to show a long-term upward growth trend. The fawn ratios which had been observed in 2008 and 2009 were well below the long-term average of 30 fawns: 100 does. This year's observed fawn ratios were the highest since 2007. Should fawn ratios continue to stay at or above the long-term-average, positive population growth should be realized.

The spring of 2010 provided significant moisture and cool weather, facilitating a strong onset of forbs and grasses. Summer moisture was sporadic; however, its frequency seemed to sustain the growth of succulent summer forbs and grasses providing quality forage throughout the summer months. Despite having good spring moisture in 2010, water availability throughout the year continues to be an issue for both animal water requirements and forage production and was evidenced by the boom and bust cycle of observed fawn ratios. Antelope have been especially challenged in areas where they face stiff competition from wild horses for the little water that is available. The Department of Wildlife is in the process of identifying and proposing and/or completing water developments in these unit groups which would provide more consistent water sources for pronghorn on a year-round basis and protecting perennial water sources from degradation.

Observations of elk scat and tracks occur throughout the allotments. Elk typically stay at higher elevations in the summer months and utilize the valley floor areas during the winter. Elk have been observed during the winter months utilizing black sage habitats within the Badlands and Goshute Mountain Allotments. These elk groups are coming up from the South Mountains in White Pine County and the Deep Creek Range in Tooele County, Utah. The habitat for elk in these allotments is considered winter range, but due to lack of water sources, these herds move about frequently and are not known to spend considerable amounts of time within the confines of the allotment boundaries.

The mountain lion (*Puma concolor*) also is classified as a big game species. Mountain lions are fairly common in north-central Nevada and occupy the higher elevation areas. They often travel between mountain ranges and valleys depending on prey availability.

Small game species that have been detected within the allotments include chukar (*Alectoris chukar*), Greater sage-grouse, and pygmy rabbit. Chukar are found on rocky ridges and hillsides. Although Greater sage-grouse and pygmy rabbits are considered game species in Nevada, they are also BLM special status species and are discussed in that section.

Furbearers that may occur within the allotments include the badger (*Taxidea taxus*), gray fox (*Urocyon cinereoargenteus*), kit fox (*Vulpes macrotis*), and bobcat (*Lynx rufus*).



### **Affected Environment for Federally Listed and Special Status Species and Migratory Birds**

The BLM's policy for management of special status species is in the BLM Manual Section 6840. Special status species include the following:

- **Federally Threatened or Endangered Species:** Any species that the United States Fish and Wildlife Service (USFWS) have listed as an endangered or threatened species under the ESA throughout all or a significant portion of its range.
- **Proposed Threatened or Endangered Species:** Any species that the USFWS has proposed for listing as a federally endangered or threatened species under the ESA.
- **Candidate Species:** Plant and animal taxa that are under consideration for possible listing as threatened or endangered under the ESA.
- **BLM Sensitive Species:** 1) Species that are currently under status review by the USFWS; 2) Species whose numbers are declining so rapidly that federal listing may become necessary; 3) Species with typically small and widely dispersed populations; or 4) Species that inhabit ecological refugia or other specialized or unique habitats.
- **State of Nevada Listed Species:** State-protected animals that have been determined to meet BLM's Manual 6840 policy definition.

Nevada BLM policy is to provide State of Nevada listed species and Nevada BLM sensitive species with the same level of protection as is provided to candidate species in BLM Manual 6840.06C. Per the wording in Table IIa in BLM Information Bulletin (IB) No. NV-2003-097, Nevada protected animals that meet BLM's 6840 policy definition are those species of animals occurring on BLM-managed lands in Nevada that are: 1) 'protected' under authority of the NAC; 2) have been determined to meet BLM's policy definition of "listing by a state in a category implying potential endangerment or extinction;" and 3) are not already included as federally listed, proposed, or candidate species.

The Badlands and Goshute Mountain Allotments contain ridges, cliffs, canyons, rocky outcrops, and ephemeral drainages. There are no permanent sources of water within the allotments. The ephemeral drainages within the Allotments only carry water during snowmelt or rain events.

The Allotments contain three key habitats for wildlife as defined in Nevada's Wildlife Action Plan (NDOW 2006) including sagebrush, cliffs and canyons, and barren landscapes. Sagebrush provides nesting cover and structure, protection from predators, thermal cover, and foraging for wildlife. Cliffs and canyons provide structure for ledges and crevices for nesting, roosting, or denning, protection from predators, protection from the summer sun, and areas for foraging. Barren landscapes such as rocky slopes and talus are frequently found under cliffs and provide foraging, protection from predators, thermal cover, and food storage (NDOW 2006).

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## Badlands and Goshute Mountain Allotments Grazing Permit Renewal

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### Federally Listed Species

The U. S. Fish & Wildlife Service has identified that the yellow-billed cuckoo (a candidate species) may occur within the allotments. (March 9, 2006, File No. 1-5-06-SP-093.) The Nevada Department of Wildlife's (NDOW) 2006 Wildlife Species List for the allotments includes the endangered California condor (*Gymnogyps californianus*). However, this same list shows these condor and cuckoo species as "locally extirpated." Yellow-billed cuckoos are riparian obligates and need willow stands and cottonwood galleries for foraging area and cover diversity. These habitat parameters are lacking in the allotments, suggesting this species does not likely occur at this time.

There are no known specific habitat areas on the Elko District or within the area affected by the proposed action for California condors, such as roosting, nesting or foraging sites,. The BLM has not been made aware of any documented condor observations or site records in Elko County by any agency or academia personnel, or the general public.

No federally-listed plant species are known to occur in the allotments; therefore, federally-listed plant species are not addressed further in this EA. No other federally listed threatened or endangered wildlife species occur within the allotments. One federal candidate wildlife species occurs in the Project Area, Greater sage-grouse (*Centrocercus urophasianus*). Greater sage-grouse is also a BLM sensitive species. The 2011 breeding bird density analysis indicates that only a small number of birds utilize the allotments for nesting habitat. The nearest Greater sage-grouse leks or strutting grounds are within ¼ of a mile from the south- west boundary and one mile from the west boundary of the Goshute Mountain Allotment and both are over two miles from the southern boundary of the Badlands Allotment; both leks are of "unknown" status; meaning that they have not been surveyed recently enough to know if they are still being utilized. There are no active leks within five miles of the allotments. It is unknown how much of the allotments is utilized for nesting habitat.

The Greater sage-grouse is found throughout Nevada in sagebrush-dominated habitats. Sagebrush is a key component of Greater sage-grouse habitat on a year-long basis (USFWS Mountain Prairie Region [USFWS MPR] 2007). Sagebrush provides forage and nesting, security, and thermal cover for this species. Moist areas that provide succulent herbaceous vegetation during the summer months are used extensively as brood rearing habitat. Open, often elevated areas within sagebrush habitats usually serve as breeding areas (strutting grounds or lek sites) (USFWS MPR 2007). Greater sage-grouse males begin displaying on leks in March, and hens typically begin nesting in April and May. During winter, Greater sage-grouse often occupy wind exposed areas where sagebrush is available (e.g., drainages, southern or western slopes, or exposed ridges). The potential for this species to occur within the allotments is considered low.

### BLM Special Status Species

#### *Passerine Birds*

BLM special status bird species that occur within the Badlands and Goshute Mountain Allotments include the following: American robin; black rosy finch; Brewer's sparrow; black-



throated gray warbler; Calliope hummingbird; Clark's nutcracker; gray flycatcher; gray vireo (*Vireo vicinior*); green-tailed towhee; juniper titmouse (*Baeolophus griseus*); Lewis' woodpecker; loggerhead shrike (*Lanius ludovicianus*); orange-crowned warbler; piñon jay (*Gymnorhinus cyanocephalus*); plain titmouse; red-naped sapsucker; Greater sage-grouse; sage sparrow; sage thrasher; Scott's oriole; vesper sparrow (*Pooecetes gramineus*); Virginia's warbler; western bluebird; white-throated swift; and Wilson's warbler (See migratory bird section for full listing and habitat biology). All of these species have foraging and nesting habitat within the allotments.

### *Raptors*

BLM special status raptor species that have been observed within the allotments include burrowing owl (*Athene cunicularia*); prairie falcon (*Falco mexicanus*) and ferruginous hawk (*Buteo regalis*) (Refer to migratory bird section). Ferruginous hawk nests have been observed within the allotments. Nest sites are normally located at the interface between piñon and juniper woodland and open sagebrush. Nest trees typically overlook broad expanses of open sagebrush or grassland (Herron et al. 1985). The ferruginous hawk also breeds in many other areas of Nevada, i.e. on promontory points, rocky outcrops, cut banks, or on the ground. Ferruginous hawks begin nesting in March, and young fledge by July. This species has been observed nesting within the allotments. Suitable foraging habitat occurs within the allotments. The potential for this species to occur within the allotments is considered high.

Suitable burrowing owl habitat occurs throughout the allotments. The burrowing owl is known to breed throughout Nevada. The majority of the breeding population is known to migrate from northern Nevada during the winter months. However, observations of this owl have been recorded throughout Nevada during all months of the year (Herron et al. 1985). Breeding by burrowing owls is strongly dependent on the presence of burrows constructed by prairie dogs, ground squirrels, or badgers. Prime burrowing owl habitat must be open, have short vegetation, and contain an abundance of burrows. Burrowing owls begin nesting in April, and young typically fledge by August. Suitable foraging habitat exists within the allotments. The potential for this species to occur within the allotments is considered high.

Prairie falcons range throughout the Great Basin and are permanent residents of Nevada. Habitat requirements include steep cliff ledges and outcrops for nesting that border semi-arid valleys (BLM 2005). The highest nesting densities in Nevada occur in northern counties, particularly located in or near the mouth of narrow canyons, overlooking riparian vegetation and agricultural lands (Herron et al. 1985). Other suitable prairie falcon nesting habitat of cliffs and rock outcrops occurs throughout the Badlands Allotment. Prairie falcons have been observed within both the Badlands and Goshute Mountains Allotments. Prairie falcons begin nesting in March, and young typically fledge by July. The potential for this species to occur within the allotments is considered moderate.

Other BLM special status raptors observed within the allotments include the bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), and Cooper's hawk (*Accipiter cooperii*). Golden eagles have foraging habitat within the allotments and vicinity. In eastern Nevada, suitable nesting habitat for golden eagle is primarily cliffs and ledges. The golden eagle is a year-long resident and is considered to be commonly breeding throughout Nevada; however,

eagle densities and nesting activity are greatest in the northern third of Nevada (Herron et al. 1985). Nesting golden eagles prefer suitable cliffs that overlook sagebrush flats, piñon-juniper forests, salt desert shrub, or other habitat capable of supporting a suitable prey base. Highest densities of nesting eagles typically are found along river systems where cliffs border the entire length of the river, and lower densities are found in piñon-juniper habitat and salt desert shrub communities (Herron et al. 1985). Golden eagles begin nesting in March, and young fledge by July. Wintering golden eagles tend to congregate in broad valleys interspersed with agricultural croplands or sagebrush and desert shrub communities. Suitable foraging habitat for golden eagles exists within the allotments. The potential for this species to occur within the allotments is considered high.

The bald eagle is found throughout Nevada but mainly as a migrant and winter resident (Floyd et al. 2007). Bald eagles have a nesting distribution that is largely restricted to coastal areas, lakes, and rivers (WAPT 2006). Nests are typically very large stick nests located in large trees such as cottonwoods. Bald eagles typically begin nesting in February, and young fledge by July. One bald eagle nest has been reported in northeastern Nevada and one nest has been reported near Lahontan Reservoir in western Nevada. Although no bald eagle nests or roosts have been observed in the allotments, bald eagles do winter in the vicinity. However, due to the exclusively seasonal use, the potential for this species to occur within the allotments is considered only moderate.

Cooper's Hawks seem to prefer deciduous and mixed forest or open woodlands. Areas where woodlands tend to occur in patches, groves, or as well-spaced trees are typically used. Riparian woodlands, semiarid woodlands, and mixed groves often support Cooper's Hawks. They rarely occur in dense forest, but when they do, they are often near forest edges such as along clearings or meadows, streams, or lake edges. In Nevada, 76 percent of documented nests occurred in aspen, 12 percent in cottonwood, and six percent in conifers, willow, or birch (Gary Herron, pers. comm.) Habitat suitability index models developed by Zeiner et al. (1990) for Cooper's Hawks in coniferous forest specify that vegetative structure within a nest site should be at least 21 to 49 feet high. Tree canopy cover should be at least 41 to 69 percent, slope no greater than 49 percent, and the nest stand should be no more than three kilometers from water and 1.6 km from an opening (of undefined size). Nests are usually placed high in a conifer just below the crown (10.7 to 16.4 meters) for protection from direct sunlight and predators. Some nests are built upon clumps of mistletoe. Open flying space is important in the mid- and lower understory levels. Snag density information is lacking but snags are deemed important for providing habitat for prey, plucking posts, and fledgling flying skills development. Cooper's Hawks have been found nesting in Nevada from 4,000 feet elevation (Mason Valley, Lyon County) up to at least 9,000 feet. Cooper's Hawks migrate down slope or go further south for the winter, where they often are found in urban settings. Most nests are located within relatively close proximity to water (<1 kilometer), occur on slopes under 49 percent, and are most often located on north and east aspects. No nests are known to occur in the allotments and it is probable that observations coincide with southward migration periods. The potential for this species to occur within the allotments is considered low.

Swainson's hawks are summer residents of Nevada, migrating south in the winter months. Swainson's Hawks mainly hunt mice, ground squirrels, rabbits, birds, and reptiles during the breeding season, and largely live off insects like grasshoppers, locust, and beetles during the

non-breeding season. This hawk can be found in open grasslands, prairies, farmlands, and deserts that have some trees for nesting. Nests are made of sticks and placed in trees, shrubs or the edge of a natural cliff. Swainson's hawks have been observed in the allotments. The potential for this species to occur within the allotments is considered high.

### *Bats*

A total of 13 BLM special status bat species have been identified as having the potential of being found within the allotments. However, no bat surveys have been conducted within the allotments, so exact species distributions cannot be determined. The following BLM special status species have the potential of utilizing habitat within the Badlands and Goshute Mountain Allotments: little brown myotis (*Myotis lucifugus*); silver-haired bat (*Lasionycteris noctivagans*); long-eared myotis (*Myotis evotis*); Brazilian free-tailed bat (*Tadarida brasiliensis*); Townsend's big-eared bat (*Corynorhinus townsendii*); big brown bat (*Eptesicus fuscus*); small-footed myotis (*Myotis ciliolabrum*); California myotis (*Myotis californicus*); long-legged myotis (*Myotis volans*); pallid bat (*Antrozous pallidus*), spotted bat (*Euderma maculatum*), western pipistrelle (*Pipistrellus Hesperus*), and the Yuma myotis (*Myotis yumanensis*).

*Little Brown Myotis*-The little brown bat could exist as a year-round resident primarily found at higher elevations. This species often is associated with coniferous forests. Foraging occurs in open areas among vegetation, along water margins, and above open water. Roost sites include hollow trees, rocky outcrops, and buildings (Bradley et al. 2006). Very little foraging habitat occurs within the allotments. The potential for this species to occur within the allotments is considered low.

*Silver-haired Bat*-The silver-haired bat is a transient spring and fall migrant that occupies low to middle elevations (1,500 to 8,200 feet) (Bradley et al. 2006). This species inhabits coniferous and mixed deciduous/coniferous forests of piñon-juniper, subalpine fir, white fir, limber pine, aspen, cottonwood, and willow (Bradley et al. 2006). This species gleans insects and moths in or near wooded areas and along edges of roads, streams, or water bodies. This species roosts both singly or in small groups in hollow trees, rock crevices, mines, caves, and houses. Very limited foraging habitat occurs within the allotments. The potential for this species to occur within the allotments is considered low.

*Long-eared Myotis*-The long-eared myotis is found throughout Nevada from approximately 2,260 to 6,790 feet in elevation but primarily is found at the higher elevations (Bradley et al. 2006). The long-eared myotis primarily is associated with coniferous forests, including piñon-juniper woodlands; however, the species also utilizes sagebrush and desert scrub habitats. Day roosts include hollow trees; under loose tree bark; crevices in rock cliffs and fissures in the ground. Night roosts primarily occur in caves, mines, and abandoned buildings (AGFD 1993; Bradley et al. 2006; Harvey et al. 1999). This species is known to roost singly or in small groups. This species gleans insects (primarily small moths) over vegetation and open water (e.g., rivers, streams, and ponds) (Bradley et al. 2006). Very little foraging habitat occurs within the allotments. The potential for this species to occur within the allotments is considered low.

*Brazilian Free-tailed Bat*-The Brazilian free-tailed bat is found throughout Nevada in a wide variety of habitats ranging from desert scrub to high elevation mountain habitats (680 to 8,200 feet) (Bradley et al. 2006). This species roosts in a variety of structures including cliff faces, caves, mines, buildings, bridges, and hollow trees. Some caves are used as long-term transient stopover roosts during migration (Bradley et al. 2006). The Brazilian free-tailed bat is known to travel long distances to foraging areas and often forages at high altitudes. Suitable foraging habitat occurs within the allotments. The potential for this species to occur within the allotments is considered moderate.

*Townsend's Big-eared Bat*-The Townsend's big-eared bat is a year-round resident found throughout Nevada from low desert to high mountain habitats (690 to 11,400 feet in elevation) (Bradley et al. 2006). The Townsend's big-eared bat primarily occurs in piñon-juniper, mountain mahogany, white fir, blackbrush, sagebrush, salt desert scrub, agricultural lands, and urban habitats (Bradley et al. 2006). This species prefers caves, mines, and buildings that maintain stable temperatures and airflow for nursery colonies, bachelor roosts, and hibernacula (Harvey et al. 1999). It does not make major migrations and appears to be relatively sedentary, not traveling far from summer foraging grounds to winter hibernation sites (Harvey et al. 1999). Its distribution seems to be determined by suitable roost and hibernation sites, primarily caves and mines. This bat is believed to feed entirely on moths (Harvey et al. 1999) and gleans insects from foliage and other surfaces (Bradley et al. 2006). The potential for this species to occur within the allotments is considered low.

*Big Brown Bat*-The big brown bat is a year-round resident in Nevada. This species is found from low to high elevations (980 to 9,800 feet) and occupies a variety of habitats including piñon-juniper, blackbrush, creosote, sagebrush, and salt desert scrub (Bradley et al. 2006). This species gleans insects over water and open landscapes, as well as in both forested and edge settings (Bradley et al. 2006). The big brown bat is a colonial species, roosting in groups up to several hundred. Roost sites include caves, mines, buildings, bridges, and trees. This species is known to be more tolerant of human habitation than other bat species. The potential for this species to occur within the allotments is considered moderate.

*Small-footed Myotis*-The small-footed myotis is found throughout Nevada from approximately 3,500 to 5,900 feet in elevation (Bradley et al. 2006). This species inhabits a variety of habitats including desert scrub, grassland, sagebrush steppe, blackbrush, greasewood, piñon-juniper woodlands, pine-fir forests, agricultural lands, and urban areas (Bradley et al. 2006). Day and maternity roosts of western small footed myotis have been found in crevices in cliffs, boulders, and on talus slopes. Summer roosts are highly variable and include buildings, mines, under the bark on trees, and crevices in cliffs and boulders (AGFD 1993; Harvey et al. 1999). This species prefers small protected dry crevices. Night and hibernation roosts are located in small caves and abandoned mine adits. Buildings also are used as temporary night roosts between flights. Western small-footed myotis forage for insects over the edge of rocky bluffs, in clearings, near rocks, and over forests (AGFD 1993; Bradley et al. 2006; Harvey et al. 1999). Suitable foraging habitat occurs within the allotments. The potential for this species to occur within the allotments is considered high.

*California Myotis*-The California myotis is a year round resident found throughout Nevada at low and middle elevations (689 to 8,957 feet) (Bradley et al. 2006). This species occurs in a variety of habitats from Lower Sonoran desert scrub to forests. The California myotis gleans insects above open habitat. This species typically roosts singly or in small groups, although some mines are known to shelter colonies of over 100 individuals. Roost sites include mines, caves, buildings, rock crevices, hollow trees, and under exfoliating bark (Bradley et al. 2006). This species is known to forage throughout the winter. Suitable foraging habitat occurs within the allotments. The potential for this species to occur within the allotments is considered high.

*Long-legged Myotis*-The long-legged myotis occupies piñon-juniper and montane coniferous forest habitats from approximately 3,050 to 11,220 feet in elevation in Nevada (Bradley et al. 2006). Individuals typically day roost singly or in small groups in buildings, rock crevices, caves, abandoned mines, or in hollow trees, particularly large diameter snags or live trees with lightning scars (AGFD 1993; Bradley et al. 2006; Harvey et al. 1999). Night roosts and hibernacula are often in caves and mines. Foraging typically occurs in open areas, often at canopy height (Bradley et al. 2006). Very little suitable foraging habitat occurs within the allotments. The potential for this species to occur within the allotments is considered low.

*Pallid Bat*-The pallid bat is a year-round resident in Nevada. Found primarily at low and middle elevations (1,300 to 8,400 feet), this species occupies a variety of habitats such as piñon-juniper, blackbrush, creosote, sagebrush, and salt desert scrub (Bradley et al. 2006). This species feeds primarily on large ground-dwelling arthropods (e.g., scorpions, centipedes, grasshoppers), but also feeds on large moths (Bradley et al. 2006). The pallid bat is a colonial species, roosting in groups of up to 100 individuals (Arizona Game and Fish Department [AGFD] 1993). Roost sites consist of rock outcrops, mines, caves, hollow trees, buildings, and bridges (AGFD 1993; Bradley et al. 2006). The pallid bat is intolerant of roost sites in excess of 40°C (Bradley et al. 2006). Based on its known range and suitable habitat within the allotments, the potential for this species to occur within the allotments is considered moderate.

*Spotted Bat*-The spotted bat is a year round resident that has a scattered distribution throughout Nevada. Found in a wide variety of habitats from low elevation desert scrub to high elevation coniferous forest habitats, including pinyon-juniper, sagebrush, riparian in urban habitats. This species is closely associated with rocky cliffs. This species diet includes a variety of insects, but predominantly moths. This species is capable of flying long distances to find suitable foraging grounds. Day roosts are primarily in crevices in cliff faces, but also in mines and caves, primarily in winter. The spotted bat roosts singly. Suitable foraging habitat occurs within the allotments. The potential for this species to occur within the allotments is considered moderate.

*Western Pipistrelle*-The western pipistrelle is a year round resident that is found throughout most of Nevada. It is most commonly found in low to middle elevations, although occasionally at higher elevations. Found mainly in sagebrush and low elevation habitats such as blackbrush and salt desert scrub. This species eats mainly insects and roosts in rock crevices mines, caves and occasionally in buildings and vegetation. Suitable foraging habitat occurs within the allotments. The potential for this species to occur within the allotments is considered moderate.



*Yuma Myotis*-The Yuma myotis is a year round resident found primarily in the southern and western half of Nevada at low to middle elevations (1,476 to 7,677 feet). This species occurs in a wide variety of habitats, including sagebrush, salt desert scrub, agriculture, playa, and riparian habitats. This species gleans aquatic insects over open water and above vegetation. Roost sites include buildings, trees, mines, caves, bridges, and rock crevices. Night roosts are usually associated with buildings, bridges, or other man-made structures (Bradley et al. 2006). Suitable foraging habitat occurs within the allotments. The potential for this species to occur within the allotments is considered moderate.

### *Pygmy rabbits*

Pygmy rabbits, a BLM special status mammal species, were detected outside the allotment boundaries, but within similar habitats as consist within the allotments. Typical pygmy rabbit habitat consists of dense stands of big sagebrush growing in deep loose soils that are deeper than 20 inches, have at least 13 to 30 percent clay content, and are light colored and friable. Pygmy rabbit habitat is generally on flatter ground or moderate slopes in Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*) uplands, Basin big sagebrush (*Artemisia tridentata* ssp. *tridentata*) drainages, and in ephemeral drainages in between ridges of low sagebrush (*Artemisia arbuscula*) (Ulmschneider 2004); however they have been found in greasewood (*Sarcobatus* spp.) and rabbitbrush (*Chrysothamnus* spp.).

The pygmy rabbit is believed to be one of only two rabbits in North America that digs its own burrows. Pygmy rabbits dig burrows three inches in diameter and a burrow may have three or more entrances. Burrows are relatively simple and shallow, often no more than seven feet in length and less than four feet deep with no distinct chambers. The reported elevation range for this species is 4,500 to 7,450 feet above sea level; however, they occur in elevations up to 8,000 feet above sea level in the mountains in central Nevada. The winter diet of pygmy rabbits is composed of up to 99 percent sagebrush. During spring and summer, their diet may consist of roughly 51 percent sagebrush, 39 percent grasses, and ten percent forbs. During winter, pygmy rabbits use extensive snow burrows to access sagebrush forage, as travel corridors among their underground burrows, and possibly as thermal cover (USFWS 2003). No pygmy rabbit burrows, scat, runways, or individuals have been reported within the allotments.

### *Migratory Birds*

Migratory bird, "means any bird listed in 50 CFR 10.13." All native birds found commonly in the United States, with the exception of native resident game birds, are protected under the Migratory Bird Treaty Act (MBTA). The MBTA prohibits taking of migratory birds, their parts, nests, eggs, and nestlings. Executive Order 13186, signed January 10, 2001, directs federal agencies to protect migratory birds by integrating bird conservation principles, measures, and practices.

Additional direction comes from the Memorandum of Understanding (MOU) between the BLM and the United States Fish and Wildlife Service (USFWS), signed January 17, 2001 and updated August 31, 2010. The purpose of this MOU is to strengthen migratory bird conservation through enhanced collaboration between the BLM and USFWS, in coordination with state, tribal, and

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local governments. The MOU identifies management practices that impact populations of high priority migratory bird species, including nesting, migration, or over-wintering habitats, on public lands, and develops management objectives or recommendations that avoid or minimize these impacts.

Due to data compiled over the last several decades by the BLM and the NDOW it is known that a wide variety of migratory birds are found within the allotment. These species are associated with a variety of habitat types, and many occur within the allotment year round. Table 6A provides a compilation of the migratory bird species considered present within the allotment based on habitat requirements present for certain species. Table 6B provides a more detailed description of the migratory bird species considered present within the Badlands and Goshute Mountain Allotments and the habitat associations that support their life-cycle needs.

**Table 6A: Migratory Bird Species Considered Located Within the Allotments**

	Sagebrush	Cliffs/ Talus	Pinyon/ Juniper	Salt Desert Scrub
American Kestrel	X		X	
American Robin	X			
American Goldfinch				X
Black Rosy Finch	X	X*		
Black-throated Gray Warbler			X	
Black-throated Sparrow	X			
Blue-gray gnatcatcher			X	
Brewer's Sparrow	X			
Brewer's Blackbird	X			
Burrowing Owl	X			X
Bushtit			X	
Canyon Wren		X		
Calliope Hummingbird	X			
Clark's nutcracker			X	
Cliff Swallow		X		
Common nighthawk			X	X
Common Raven		X		
Common 'poorwill			X	X
Cooper's Hawk	X			



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	Sagebrush	Cliffs/ Talus	Pinyon/ Juniper	Salt Desert Scrub
Dark-eyed junco			X	
Ferruginous Hawk	X	X	X	
Fox Sparrow	X			
Gray Flycatcher	X		X	
Gray Vireo			X	
Green-tailed Towhee	X			
Golden Eagle		X		
Horned Lark	X			
Juniper Titmouse			X	
Lark Sparrow	X			
Lewis' Woodpecker	X			X
Loggerhead Shrike	X			X
Northern Flicker	X			
Northern Goshawk	X	X		
Orange-Crowned Warbler	X			
Pinyon Jay			X	
Prairie Falcon	X	X*		
Red-naped Sapsucker	X			
Red-shafted Flicker	X			
Rock Wren		X		
Sage Grouse	X*			
Sage Sparrow	X			
Sage Thrasher	X			
Say's Phoebe		X		
Scott's Oriole			X	
Swainson's Hawk	X			
Turkey Vulture	X	X	X	X
Vesper Sparrow	X			
Violet-green Swallow		X		
Virginia's Warbler			X	
Warbling Vireo				
Western Bluebird			X	X
White-throated Swift		X		
Western Meadowlark	X			

\* "Obligates" are species that are found only in the habitat type described in the section. [Habitat needed during life cycle even though a significant portion of their life cycle is supported by other habitat types]

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**Table 6B. Migratory Bird Species Considered Present on the Badlands and Goshute Mountain Allotments and the Habitat Associations Used by Them**

Common Name	Scientific Name	PIF <sup>1</sup> “Long term Planning and Responsibility Species”	NVPIF <sup>2</sup> “Priority Species”	Habitat Associations*
American kestrel	<i>Falco sparverius</i>	No	No	Found in various open and semi-open habitats. Nest in natural holes in trees and abandoned bird nests.
American Robin	<i>Turdus migratorius</i>	No	No	Found in mixed, coniferous, and hardwood forests, grasslands, shrub lands, and orchards.
American Goldfinch	<i>Spinus tristis</i>	No	No	Found in open areas and semi-open habitats.
Black Rosy Finch	<i>Leucosticte atrata</i>	Yes	Yes	Breeds in alpine areas, usually near rock piles, and cliffs. Winters in open country, including mountain meadows, high deserts, valleys, and plains.
Black-throated gray warbler	<i>Dendroica nigrescens</i>	Yes	Yes	Found mostly in piñon-juniper woodlands, and less frequently in mountain mahogany and montane riparian woodlands.
Black-throated sparrow	<i>Amphispiza bilineata</i>	No	No	Found in desert and shrub land/chaparral. Nests are well-concealed at the base of a bush or cactus, on or near the ground.
Blue-gray gnatcatcher	<i>Polioptila caerulea</i>	No	No	Found in deciduous forest, open woodland, second growth, scrub, brushy areas, chaparral, and in open piñon-juniper woodland. Nests where tracts of brush, scrub, or chaparral are intermixed with taller vegetation
Brewer’s Sparrow	<i>Spizella breweri</i>	Yes	No	Found closely associated with sagebrush, preferring dense stands broken up with grassy areas. Adults return persistently to the same breeding sites each year. In the northern part of their range, they can be found in habitats such as sub-alpine fir or dwarf birch, or montane pinon-juniper woodlands.
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	No	No	Found in agricultural fields that have brushy edges, open areas including parks, campgrounds, parking lots, wetlands, and suburban and urban settings.
Burrowing owl	<i>Athene cunicularia</i>	No	Yes	Found in valley bottoms. Nest primarily in abandoned burrows of ground squirrels, badgers, and coyotes.
Bushtit	<i>Psaltiriparus minimus</i>	No	No	Found in woodlands and scrub habitat with scattered trees and shrubs, in brushy streamsides, piñon-juniper, chaparral and pine-oak associations.
Canyon Wren	<i>Catherpes mexicanus</i>	No	No	Found in cliffs, canyons, rocky outcrops, and boulder piles.
Calliope Hummingbird	<i>Stellula calliope</i>	Yes	Yes	The Calliope prefers high mountains, and has been seen as high as 11,000 feet. It builds its nests over creeks or over roads next to streams or lakes, usually repairing the previous year's nest or constructing a new one atop the old. This bird usually forages within five feet of the ground.
Clark's nutcracker	<i>Nucifraga columbiana</i>	Yes	No	Found in piñon-juniper woodlands, and in higher elevation coniferous forests including ponderosa/Jeffrey pine forest, red fir forest, and spruce-fir forests.

## Badlands and Goshute Mountain Allotments Grazing Permit Renewal

Common Name	Scientific Name	PIF <sup>1</sup> “Long term Planning and Responsibility Species”	NVPIF <sup>2</sup> “Priority Species”	Habitat Associations*
Cliff swallow	<i>Petrochelidon pyrrhonota</i>	No	No	Found in open canyons and river valleys with rocky cliffs for nesting, under bridges and freeways, farmland, wetlands, prairies, residential areas, road cuts and over open water. Require a source of mud for their nests.
Common nighthawk	<i>Chordeiles minor</i>	No	No	Found in open habitats, from shrub-steppe, grassland, and agricultural fields to cities, clear-cuts, and burns, as long as there are abundant flying insects and open gravel surfaces for nesting.
Common raven	<i>Corvus corax</i>	No	No	Found in dense forests, open sagebrush country, and alpine parklands.
Common poorwill	<i>Phalaenoptilus nuttallii</i>	No	No	Found in valleys and foothills, mixed chaparral-grassland, and piñon-juniper habitat. Nests in open areas on a bare site.
Cooper's hawk	<i>Accipiter cooperii</i>	No	Yes	Nests in old, tall deciduous tree groves, such as cottonwood stands.
Dark-eyed junco	<i>Junco hyemalis</i>	No	No	Habitats include various sorts of coniferous, mixed, and deciduous forest, forest edge; forest clearings, open woodland. Nests are in scrapes on the ground and usually are concealed by logs, rocks, tree roots, leaves, or ground vegetation.
Ferruginous Hawk	<i>Buteo regalis</i>	Yes	Yes	Found in arid and semiarid grassland regions of North America. The countryside is open, level, or rolling prairies; foothills or middle elevation plateaus largely devoid of trees; and cultivated shelterbelts or riparian corridors. Rocky outcrops, shallow canyons, and gullies may characterize some habitats. These hawks avoid high elevations, forest interiors, narrow canyons, and cliff areas.
Fox Sparrow	<i>Passerella iliaca</i>	No	No	Breeding Fox Sparrows can be found at high elevations, especially in wet meadows or in scattered conifers. Wintering Fox Sparrows inhabit recent clear cuts and tangled brush, especially blackberry thickets.
Gray flycatcher	<i>Empidonax wrightii</i>	Yes	Yes	Found in tall sagebrush and bitterbrush stands and the sagebrush shrub land/piñon juniper transitional zone. Nest in tall sagebrush or conifers.
Gray vireo	<i>Vireo vicinior</i>	Yes	Yes	Found in open piñon-juniper woodlands. Nest in west or north facing trees in forked, lateral branches.
Green-tailed towhee	<i>Pipilo chlorurus</i>	Yes	No	Found in mixed-species shrub lands of intermediate and higher elevations, including piñon-juniper woodlands, montane sage steppe, and aspen. Nest on or near the ground under dense shrub cover.
Golden eagle	<i>Aquila chrysaetos</i>	Yes	Yes	Found in generally open country, in prairies, tundra, open coniferous forest and barren areas, especially in hilly or mountainous regions, nesting on cliff ledges and in trees.
Horned lark	<i>Eremophila alpestris</i>	No	No	Found in open, barren country. Prefers bare ground to short grasses.
Juniper titmouse	<i>Baeolophus ridgwayi</i>	No	Yes	Found in piñon-juniper woodlands. Nest constructed in natural tree cavity, in old woodpecker hole

## Badlands and Goshute Mountain Allotments Grazing Permit Renewal

Common Name	Scientific Name	PIF <sup>1</sup> “Long term Planning and Responsibility Species”	NVPIF <sup>2</sup> “Priority Species”	Habitat Associations*
Lark sparrow	<i>Chondestes grammacus</i>	No	No	Found in short grass, mixed-grass, and tall grass prairie; parkland; sandhills; barrens; old fields; cultivated fields; shrub thickets; woodland edges; shelterbelts; parks; riparian areas; brushy pastures; and overgrazed pastures. Nest on ground near plant or bush or in low tree or bush. May use old nest of mockingbird or thrasher.
Lewis’ woodpecker	<i>Melanerpes lewis</i>	Yes	Yes	Found in open pine woodlands, and other areas with scattered trees.
Loggerhead shrike	<i>Lanius ludovicianus</i>	No	Yes	Found in open shrub lands, including Mojave scrub, Joshua tree, salt desert scrub, sagebrush, lowland riparian, and montane riparian.
Northern flicker	<i>Colaptes auratus</i>	No	No	Found in open forest, both deciduous and coniferous, open woodland, open situations with scattered trees and snags, riparian woodland, pine-oak association, parks. Nests in dead tree trunk, or stump, or dead top of live tree; sometimes nests in wooden pole, building or earth bank.
Northern goshawk	<i>Accipiter gentilis</i>	Yes	Yes	Found in various forest types, especially mature forest
Orange-crowned warbler	<i>Vermivora celata</i>	No	Yes	Breeds in streamside thickets and woodland groves with moderately dense foliage, and in understory of forests and chaparral. Winters in thickets and shrubs along streams, forests, weedy fields, and dense tangles of shrubs and vines.
Piñon jay	<i>Gymnorhinus cyanocephalus</i>	No (Mgmt)	Yes	Found almost exclusively in piñon-juniper and occasionally wander into sagebrush and Joshua tree.
Plain titmouse	<i>Baeolophus inornatus</i>	Yes	Yes	Found in warm, dry woodlands at low to mid-elevations.
Prairie falcon	<i>Falco mexicanus</i>	No	Yes	Forages in sagebrush, salt desert, wet meadows, and some agricultural areas; nest in cliff ledges with overhead cover.
Red-naped sapsucker	<i>Sphyrapicus nuchalis</i>	No	Yes	Breeds in deciduous and mixed montane forests, often associated with willows and aspens. Winters in diverse habitats, including orchards and pine-oak woodlands.
Red-shafted flicker	<i>Colaptes auratus</i>	No	No	Found in open habitats near trees, including woodlands, edges, yards, and parks. In the West you can find them in mountain forests all the way up to tree line.
Rock wren	<i>Salpinctes obsoletus</i>	No	No	Found in bare rock, talus, scree, on cliffs, and in the desert and shrub land/chaparral. Nest in gopher burrows, rock crevices, cavities under rocks, adobe buildings, etc.
Sage grouse	<i>Centrocercus urophasianus</i>	Yes	Yes	Found in foothills, plains, and mountain slopes where sagebrush is present.
Sage sparrow	<i>Amphispiza belli</i>	Yes	Yes	Found in big sagebrush and associated shrub species. Nest close to and on the ground under shrubs or in grass tufts.
Sage thrasher	<i>Oreoscoptes montanus</i>	Yes	Yes	Found in big sagebrush stands, in greasewood flats, and montane sagebrush steppe. Nest on the ground or in the shrub canopy, depending on greatest overhead cover.

## Badlands and Goshute Mountain Allotments Grazing Permit Renewal

Common Name	Scientific Name	PIF <sup>1</sup> “Long term Planning and Responsibility Species”	NVPIF <sup>2</sup> “Priority Species”	Habitat Associations*
Say’s Phoebe	<i>Sayornis saya</i>	No	No	Found in open country, sagebrush, badlands, dry barren foothills, canyons, borders of deserts, and ranches. Often around buildings. Avoids watercourses and heavy forest.
Scott’s oriole	<i>Icterus parisorum</i>	No	Yes	Desert-facing slopes of mountains and foothills, where yuccas are common.
Swainson’s Hawk	<i>Buteo swainsoni</i>	Yes	Yes	Found in open country such as grassland, shrub land, and agricultural areas.
Turkey vulture	<i>Cathartes aura</i>	No	No	Found in forested and open situations, from lowlands to mountains.
Vesper sparrow	<i>Pooecetes gramineus</i>	No	Yes	Found in sagebrush steppe and dry-grassland associated species during breeding. Nest on the ground under vegetative cover.
Virginia’s warbler	<i>Oreothlypis virginiae</i>	Yes	Yes	Found in steep-sloped, xeric, piñon-juniper and oak woodland-dominated habitat,
Warbling vireo	<i>Vireo gilvus</i>	No	No	Found in habitat that is open deciduous or shrubby mixed woodlands, especially where large trees are present. Warbling Vireos are often found in willow or cottonwood stands along rivers. They are not found in large, unbroken tracts of woods, but prefer smaller patches and edges, including logged areas,
Western bluebird	<i>Sialia mexicana</i>	No	Yes	Open coniferous and deciduous woodlands, wooded riparian areas, grasslands, farmlands, and edge and burned areas.
White-throated swift	<i>Aeronautes saxatalis</i>	Yes	No	Found in rocky cliffs and canyons
Western meadowlark	<i>Sturnella neglecta</i>	No	No	Found in grasslands, savanna, cultivated fields, and pastures. Summers in grasslands and valleys; ranges up to higher elevations in foothills and open mountain areas. Female builds nest on dry ground.
Wilson’s warbler	<i>Wilsonia pusilla</i>	No	Yes	Breeds in shrub thickets of riparian habitats, edges of beaver ponds, lakes, bogs, and overgrown clear-cuts of montane and boreal zone. Winters in tropical evergreen and deciduous forest, cloud forest, pine-oak forest, and forest edge habitat; also found in mangrove undergrowth, secondary growth, thorn-scrub, dry washes, riparian gallery forest, mixed forests, brushy fields, and plantations.

<sup>1</sup>Partners in Flight North American Landbird Conservation Plan. (March 2005)

<sup>2</sup>Nevada Partners in Flight (Neel 1999)

\*References: NatureServe 2010 and Great Basin Bird Observatory 2005.

### Direct and Indirect Effects of Alternatives

#### Proposed Action

This alternative would continue the winter or dormant season sheep grazing. Based on key area monitoring data presented in the 2009 Badlands/Goshute Mountain Allotments S&G evaluation,

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## Badlands and Goshute Mountain Allotments Grazing Permit Renewal

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it is not expected that any long term adverse effect on wildlife populations would occur from continuing current management practices. Livestock grazing can occur anywhere throughout the allotments and habitat values may decrease at bed grounds and watering sites where livestock may congregate. These areas would continue to be impacted, but the addition of terms and conditions which require the permittee to use only certified weed free hay and limiting the period of use per bedding area to only seven days plus the stipulations taken from the FMUD associated with these allotments and incorporated into the proposed action are present to mitigate these isolated impact areas and the analysis's conclusions are not changed due to the limited area involved.

### *Big Game Species*

The allotments lie within mule deer, pronghorn antelope and elk ranges. Most of the area is poor habitat for mule deer and is used sparsely by this species. Elk use the black sage areas in the winter, but move frequently in and out of the allotments making use of the habitat only incidentally. The proposed action would not impact current habitat use by these species because of this limited use.

However, the allotments contain crucial winter habitat for pronghorn antelope. Potential direct impacts to antelope from this continued season of use by livestock is an adverse impact to winter range habitat quantity due to competition of forage. This potential adverse impact is off-set though, in that herbaceous forage quality and diversity should continue current trends of improvement over the long term because there would be no forage utilization by livestock during the critical growing period for herbaceous species.

Impacts to mountain lions would be expected to be minimal based on the infrequent occurrence of the species within the allotments.

### *Small Game Species*

The Proposed Action would have a similar impact on small game species (e.g., chukar, mourning dove, pygmy rabbit, and black-tailed rabbit) as described for big game. Either there would be no impact to current habitat conditions for these species, or there would be localized adverse impacts at bed grounds and watering sites. However, both of these are extremely limited in area compared to the entire allotments in geographic scope.

### *Non-game Species*

Direct loss of habitat from removal of vegetation and trampling at bed grounds and watering sites would eliminate forage, hiding cover, breeding sites for small mammals, bats and bird species. However, as noted above both of these are extremely limited in area compared to the entire allotments in geographic scope. Available foraging habitat would remain unchanged for raptors and other predators through maintenance of prey populations of small mammals and invertebrates. Direct impacts to nongame species (e.g., small mammals, passerine, raptors, amphibians, and reptiles) would be similar to those described above for small game species.



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## Badlands and Goshute Mountain Allotments Grazing Permit Renewal

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### *Migratory Birds*

Direct loss of habitat at bed grounds and watering sites would eliminate forage, hiding cover, breeding sites and nesting cover for birds. However, both of these are extremely limited in area compared to the entire allotments in geographic scope. Direct impacts to migratory birds would be similar to those described above for small game species.

On 12 April 2010, the BLM signed a Memorandum of Understanding (MOU) with the USFWS to promote the conservation of migratory birds. An example of a conservation measure in the MOU is to manage livestock to avoid impacts on nesting birds and to improve migratory bird habitat. The current season of use during the winter months is outside the nesting season of most migratory bird species. Many migratory bird species depend upon healthy, diverse, and productive herbaceous plant communities. The current state of plant cover and vigor will not be changed by the continued timing (i.e., winter dormant use) and distribution of livestock grazing. Other species, such as raptors, should see no decrease in prey populations.

### *Special Status Species*

The Proposed Action would not likely impact any special status species except at localized bed grounds and watering sites. Due to the lack of water and preferred habitat available within these allotments, only small numbers of specific special status species are expected to occur (e.g. sage grouse). Greater sage-grouse habitat is limited in these allotments and would unlikely be affected under this alternative.

A recently recognized threat to Greater sage-grouse populations is the emergence of the infectious disease West Nile Virus (WNV; Naugle et al. 2004, 2005, Walker et al. 2004, 2007, Aldridge 2005, Walker 2008). Outbreaks of WNV have been shown to negatively affect local sage-grouse populations, leading to near-extirpation of one local population (Walker et al. 2004) and additive mortality in other affected populations (Clark 2006). Artificial increases in surface area of water in arid sagebrush landscapes inhabited by sage-grouse have been identified as a significant threat to sage-grouse populations because they provide additional mosquito breeding habitat (Walker and Naugle 2011). The mosquito *Culex tarsalis* is the dominant vector of WNV in sagebrush habitats (Walker and Naugle 2011). Artificial increases in surface water are associated with energy development such as coal bed methane, and other anthropogenic sources such as overflowing stock tanks, earthen stock ponds, and irrigated fields, (Zou et al. 2006 and Doherty 2007 in Walker and Naugle 2011).

However, the continued practice of hauling water to livestock in these allotments will not allow standing water to remain for a sufficient period of time to contribute to an increase in mosquito infestations. The water hauling sites are in lower quality sage-grouse habitat and grouse would not be expected to use the water hauling sites as watering locations. The livestock grazing operator has been hauling water to these same sites for years. As noted in the studies above, the principle risk for West Nile Virus was new water sources. Since the water hauling sites are the same sites, these water sources are not new and would not provide new places for mosquitoes to breed. In addition, the season of use is from November 1 to March 31. This is in a period of time of highly reduced risk of mosquito breeding and spread of West Nile Virus.

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## Badlands and Goshute Mountain Allotments Grazing Permit Renewal

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Ground based species such as pygmy rabbits are not anticipated to be impacted by the continued timing and distribution of livestock grazing. Though, individual burrow sites may be impacted if they coincide with livestock watering sites. This impact is expected to be negligible since the livestock operator is continuing to use the same watering sites as he has historically and no known pygmy rabbit colonies are known to occur at these sites..

Impacts to special status species would be minimal. Direct impacts to special status species would be similar to those described above for small game species.

### No Action Alternative

Under the No Action Alternative the new terms and conditions to limit the impacts associated with congregating animals at bed grounds and watering sites would not be implemented. The only negative impact identified for the proposed action is the continued hauling of water to specific sites and no specific limits on use of bed grounds within the allotments which causes livestock to congregate in small areas. All other effects of the No Action alternative would be the same as the Proposed Action.

### **Cumulative Impacts**

#### *Wildland Fires*

Fires have been relative few in the Project Area and Wildlife CESAs as compared to the rest of Elko district. There have only been approximately 6,200 acres burned within the CESA boundaries recorded (1984-86: Approx. 1,850 acres and 1999-2007: Approx. 4,350 acres). There has been disturbance associated with wildland fires in the Wildlife CESAs, with a cumulative acreage of approximately 3,441 acres for the Elko district. Table 7 summarizes the disturbance acres from historic fires (1984-2007), in all Wildlife CESAs. Many of these fires were small lightning strikes associated with precipitation and burned less than five hundred acres each. However, several fires from 1200 to 2500 acres in size have occurred.

**Table 7. Wildland Fire Disturbance of Habitat (Acres Burned) in the CESAs**

<b>CESA</b>	<b>Historic Fires (1984-2007)*</b>
Antelope-Crucial Habitat	0
Antelope CESA-Total	6,200
General Wildlife- Total	200

- All totals are approximate

#### *Big game*

Past actions that have potentially impacted mule deer, antelope and elk include mineral exploration, ranching operations (grazing), wild horses, road construction or maintenance, fence building, or dispersed recreation that impacted water resources or reduced wildlife habitat. There are no specific data that quantify habitat loss from grazing or recreation in the CESAs. However, there are 11 BLM-administered grazing allotments and two HMA's that are within or overlap the Antelope CESA. Also, construction of ROWs and fences may have led to fragmentation of

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## Badlands and Goshute Mountain Allotments Grazing Permit Renewal

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wildlife habitat as well as impacts to vegetation and soils leading to soil erosion and the increased potential for the introduction of invasive, nonnative species. Construction and use of roads have created an ignition source for wildland fires, facilitated the introduction and proliferation of invasive, nonnative species, and impacted the antelope herd by creating obstacles.

Historic fires (1984-2007) have burned approximately 6,200 acres within the Antelope CESA. Only historic mining has taking place within the CESA boundaries. Very few ROWs were issued within the Antelope CESA that have the potential to create surface disturbance and habitat fragmentation and degradation for big game species.

Potential impacts to mule deer, antelope and elk could occur from grazing, wild horses, dispersed recreation, roads, ROWs, continued fragmentation of habitat due to fencing, minerals activities or loss of native vegetation associated with potential wildland fires.

Cumulative impacts to big game from the Proposed Action would be limited to the removal of vegetation. Based on the above, incremental impacts to big game as a result of the Proposed Action when added to the PPRFAs are expected to be minimal.

### *Small Mammals*

Past actions that have potentially impacted small mammal wildlife are the same as has been analyzed for special status species, include wildfire, mineral exploration, ranching operations (grazing), wild horses, road construction or maintenance, or dispersed recreation that reduced wildlife habitat in the CESA. Refer to the Special Status section for analysis.

Potential impacts to wildlife could occur from grazing, wild horses, dispersed recreation, roads, ROWs, minerals activities or loss of wildlife habitat associated with future wildland fires. There are no specific data on the potential impacts that would result to small mammal wildlife as a result of dispersed recreation, grazing, or future wildfires. Refer to the Special Status section for analysis.

Cumulative impacts to small mammals from the Proposed Action would be limited to the removal of vegetation. Based on the above, incremental impacts to small mammals as a result of the Proposed Action when added to the PPRFAs are expected to be minimal.

### *Migratory Birds*

Past and present actions that have potentially impacted migratory birds include mineral exploration, wildland fires, ranching operations (grazing), wild horse use, road construction and maintenance, or dispersed recreation. Impacts to migratory birds have resulted from the following: 1) destruction of habitat associated with road building and cutting trees; 2) disruption from human presence or noise such as construction equipment, four wheel drive pickups or ATV's; or 3) direct impacts/harm to migratory birds that would result if trees containing viable nests were cut down or ground nests destroyed by construction, ranching equipment or trampling by sheep or wild horse use. There are no specific data that quantify impacts to migratory birds as

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## Badlands and Goshute Mountain Allotments Grazing Permit Renewal

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a result of grazing, wild horse use or recreation. However, impacts to migratory birds from recreation activities could include destruction of native vegetation or nesting areas from off road vehicles that traveled off of established roadways. Impacts from wildland fires would include destruction of the existing habitat and alteration of the habitat thereafter.

Historic fires (1984-2007) have burned approximately 6,200 acres of habitat types in the Migratory Bird CESA (Approx. 3% percent of the CESA). No recent or foreseeable mineral exploration or mining Notices/Plans are present within the CESA. Only historic mine disturbance occurs scattered thorough out the CESA boundary for less than 100 acres. A limited amount of ROWs were issued within the Migratory CESA that have created surface disturbance and disruption to migratory bird habitat and vegetation. The Migratory Bird CESA is located within 11 grazing allotments and two HMAs. Livestock and horse grazing and associated management contribute to the spread of invasive species which can have an indirect effect on migratory birds. In addition, many miles of recreational travel routes are present within the Migratory CESA which has created habitat fragmentation or disturbance to vegetation structure.

However, disturbance to migratory birds from past and present actions is not expected to significantly increase due to the limited amount of activity in the area and may decrease due to improved grazing practices. The past and present actions that are quantifiable have disturbed only a small portion of the CESA, approximately less than one percent.

Impacts to migratory birds and their habitat from the Proposed Action would be limited to the removal of vegetation or destruction of habitat due to grazing practices including congregating around bedding areas and watering sites. However, these impacts would be localized. The Proposed Action would affect a very small percentage of the Migratory Bird CESA. Based on the above analysis incremental negative impacts to migratory birds as a result of the Proposed Action when added to the PPRFAs are expected to be minimal.

### *Special Status Species*

Sensitive bat species, pygmy rabbits, raptors, and greater sage-grouse are the only special status animal species known to occur in the CESA boundary. Impacts to special status species from the Proposed Action along with the PPRFAs include loss of forage, cover, and habitat as well as disturbance of mating and brood rearing practices. There are no specific data that quantify impacts to special status species as a result of grazing or recreation; however, the greatest impact would be from grazing (both sheep and wild horses) and off road use that adversely impacts habitat.

Historic fire and ROW analysis is the same as discussed in the migratory bird section.

The greatest impact to special status species is habitat alteration, which would occur from the PPRFA's from reclamation of exploration areas and disturbance associated with ROWS and seeding in burn areas that would favor herbaceous species over shrubs. The primary impact relates to changes in dominant plant communities that affect habitat for wildlife (i.e., conversion from sagebrush to grasslands). Wildfires combined with displacement of native species by invasive annual grasses such as cheatgrass are the primary factors that have altered the structure,

composition, and ecology of plant communities in the CESA. Re-vegetation from reclamation of exploration roads and drill pads would initially alter the dominant Great Basin Piñon Juniper Woodland, black sage and whitesage vegetation communities by replacing shrubs with grass and forb species that can exist in the environment of northeastern Nevada, are proven species for revegetation, or are native species found in the existing plant communities. In time, however, the reclaimed and seeded areas should result in stable plant communities with densities and compositions that are similar to the pre-disturbance plant densities and structure. Impacts to vegetation from recreation activities could include destruction of native vegetation from off road vehicles that travel off of established roadways. Impacts to vegetation from grazing and wild horses could include trampling and consumption of vegetation. Disturbed sites and recently seeded areas are candidates for invasion by undesirable species such as noxious weeds and cheatgrass.

Approximately 3 % of the Special Status CESA has been impacted by PPRFAs resulting in a loss of forage cover and habitat. It can be assumed that some of the disturbance has been reclaimed, seeded, or otherwise re-vegetated, which would decrease the actual impacts.

There would be no cumulative adverse impacts to any listed threatened or endangered species as none of these species are known to reside within the CESAs. Based on the above analysis, incremental impacts to special status species as a result of the Proposed Action when added to the PPRFAs are expected to be minimal.

### **3.2.6 Cultural Resources**

In order to comply with the National Historic Preservation Act (NHPA), as implemented using the Protocol between the BLM and State Historic Preservation Office (SHPO) in Nevada, the BLM must consider effects to historic properties (i.e., cultural resources eligible for the National Register of Historic Places [NRHP]) for all undertakings requiring permits, including livestock permit renewals.

The density of cultural resources is largely unknown within the Badlands/Goshute Mountain Allotments. A background investigation of the grazing allotments revealed that no known cultural resource inventories exist within the boundaries of the Area of Potential Effect (APE). Additionally, no historic properties (i.e., sites eligible for the National Register of Historic Places) are known to exist within the allotments. Two historic routes were identified on a General Land Office (GLO) Survey Platt, both were historic roads likely constructed around 1883. The southern route is known as the Kinsley Mine Road and travels through the Badlands and Goshute Mountain allotments. The northern route is unnamed and is located solely in the Badlands allotment, beginning at the Utah state line and continuing to the north along the Badlands mountain range. Historic refuse scatters may be located along both routes. There is no known information on the prehistoric use of the area. However, ethnographic and archaeological evidence suggests that the region was utilized by prehistoric peoples.

As stated in the Nevada State Protocol Agreement between the Nevada SHPO and BLM (the Protocol), areas of high grazing use and concentrations of cultural resources, or areas of high potential for significant resources will be identified using archaeological site maps and livestock

use pattern maps to assist in determining potential impacts to cultural resources from grazing as part of the livestock grazing permit issuance process. Further, the Protocol states, "the permittee and BLM staff will be made aware that the standard stipulations in the permit give BLM the ability to expeditiously mitigate or eliminate impacts to cultural resources discovered after the permit is approved." In conformance with the grazing regulations, changes may be made to ongoing livestock operations within the existing terms and conditions to ensure that livestock grazing is compatible with multiple use objectives, including cultural resource management. If cultural resource inventories indicate that the terms and conditions of the existing grazing permit may warrant modification then changes would be considered following consultation with the affected livestock operator, the interested public, and the State responsible for managing resources within the area (including SHPO). Such changes could be implemented following environmental analysis and issuance of a proposed and/or final decision as outlined in 43 CFR § 4110.3-3.

Since there is little or no information available pertaining to the locations of sites, concentrations of cultural resources or areas of high potential for significant resources, avoidance measures have not been recommended at this time. However, the BLM reserves the right to mitigate or eliminate impacts to cultural resources discovered after the permit is approved. Such avoidance measures would not significantly affect the AUMs of the grazing permit, nor would they result in significant effects to other resources. Upon the discovery of a historic property within the APE of the grazing permit, activities known to cause ground disturbance due to livestock trampling, such as the placement of watering areas, could be relocated in order to avoid adverse impacts to any known historic properties. Cultural resources which have not been fully evaluated for eligibility for the National Register shall be treated as if they were eligible until an eligibility recommendation is made.

### **Indirect/Direct Effects of Alternatives**

#### Proposed Action

Grazing would continue to impact undocumented cultural resources within the allotments, but grazing stipulations and requirements could be used to decrease the impacts of grazing upon cultural resources.

#### No Action

Grazing would continue to impact undocumented cultural resources within the allotments.

### **Cumulative Impacts**

Overall the Proposed Action would have positive effects on cultural resources, but impacts are likely to occur to undocumented cultural resources. Documented cultural resources may receive positive effects through site stabilization, avoidance and treatment measures within the existing terms and conditions of the permit. The No Action Alternative could have slightly negative effects, resulting over the long-term in more severe impacts upon cultural resources.



### **3.3 Mitigation and Monitoring**

Because BLM issues permits for grazing within allotments, this activity is an undertaking that requires compliance with Section 106 of the National Historic Preservation Act, as implemented in Nevada using the current Protocol between the BLM and State Historic Preservation Office. Compliance with the NHPA requires the BLM to determine whether historic properties (i.e., cultural resources eligible for listing on the National Register of Historic Places) will be affected by the undertaking and to minimize the effects, usually through avoidance.

## **4 CONSULTATION AND COORDINATION**

### **4.1 Persons, Groups or Agencies Consulted**

On August 19, 2008, the Wells Field Office mailed a scoping letter to the interested public to submit any data or information for the permit renewal.

On June 10, 2009, the Wells Field Office issued a draft Standards and Guidelines Assessment for the Badlands/Goshute Mountain Allotments. No comments were received.

Scoping for preparation of this EA included coordination with the following affected interests.

### **4.2 Preparers**

Bruce Thompson – Lead Preparer/Range/Wild Horses  
Victoria Anne - NEPA Coordination  
Matthew Werle - Cultural Resources  
Mark Dean - Soil, Air, and Water  
Nycole Burton - Wildlife, Migratory Birds, BLM Special Status Species  
Brian Mulligan – Invasive, Nonnative Species  
Donna Jewell – Supervisory Natural Resource Specialist

### **4.3 Distribution**

Prior to issuance of any decision to implement the proposed action, this EA will be available for comment on the BLM public web site at: <http://www.blm.gov/rv5c>.

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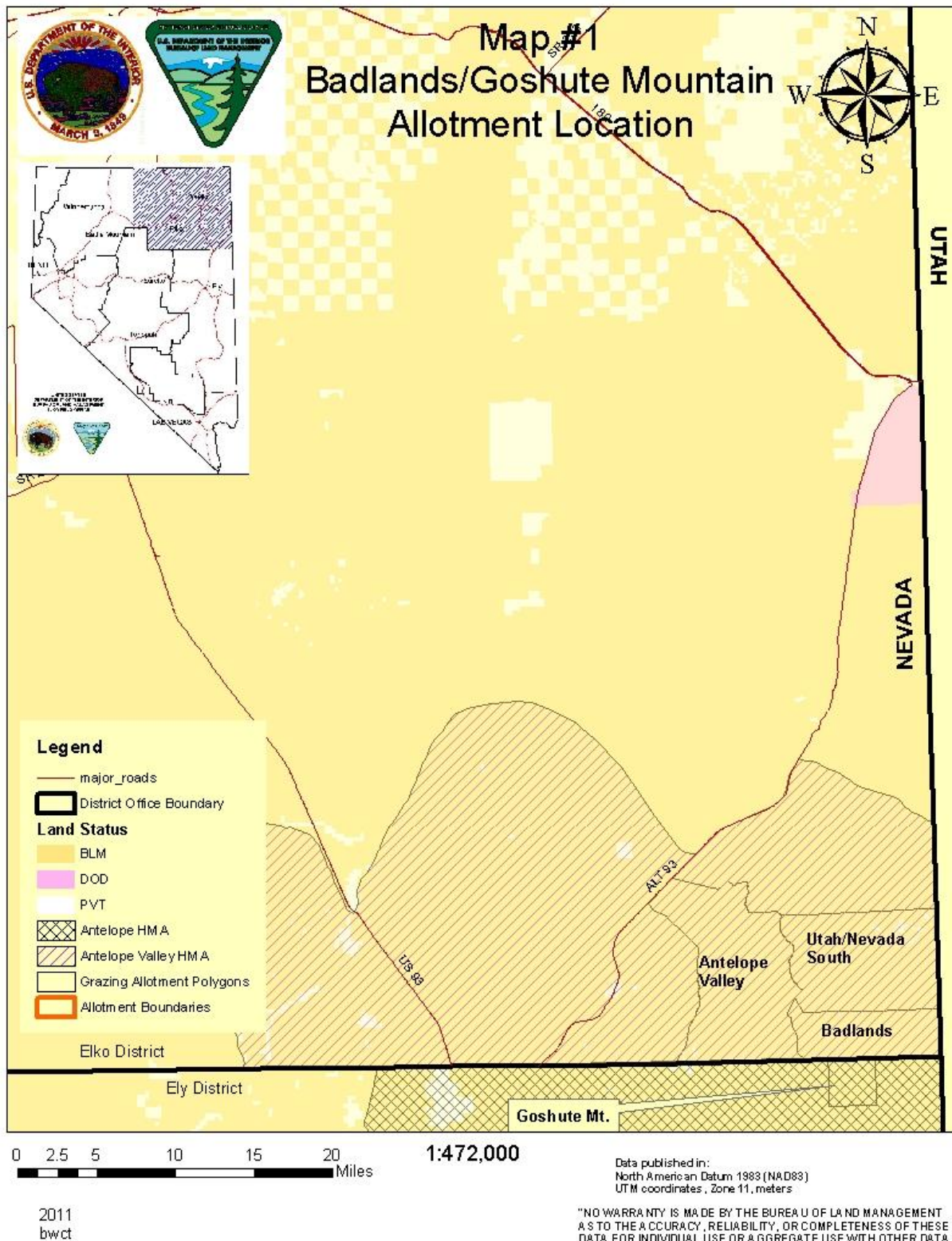
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## Attachments

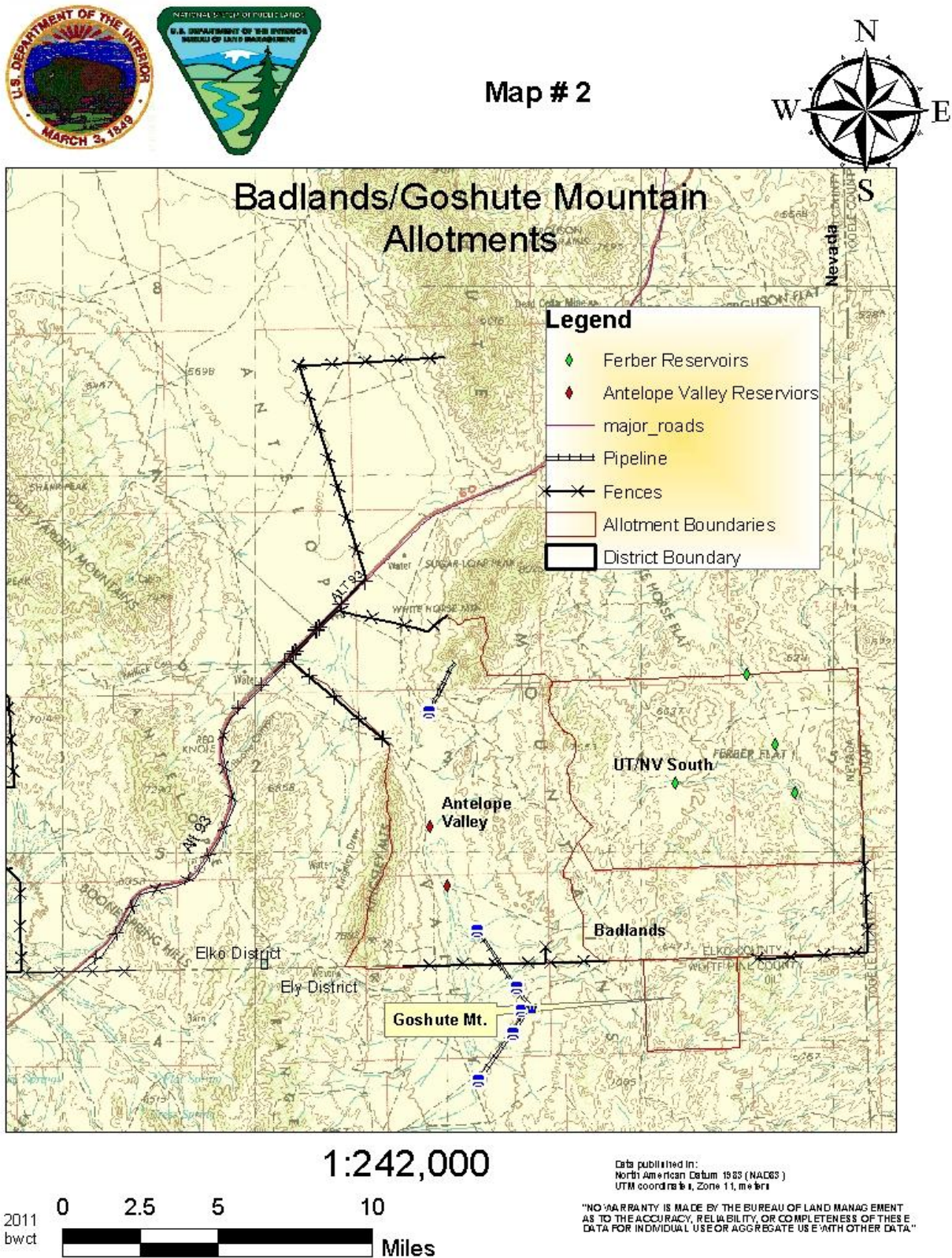
Map #1. Location of the Badlands and Goshute Mountain Allotments





## Badlands and Goshute Mountain Allotments Grazing Permit Renewal

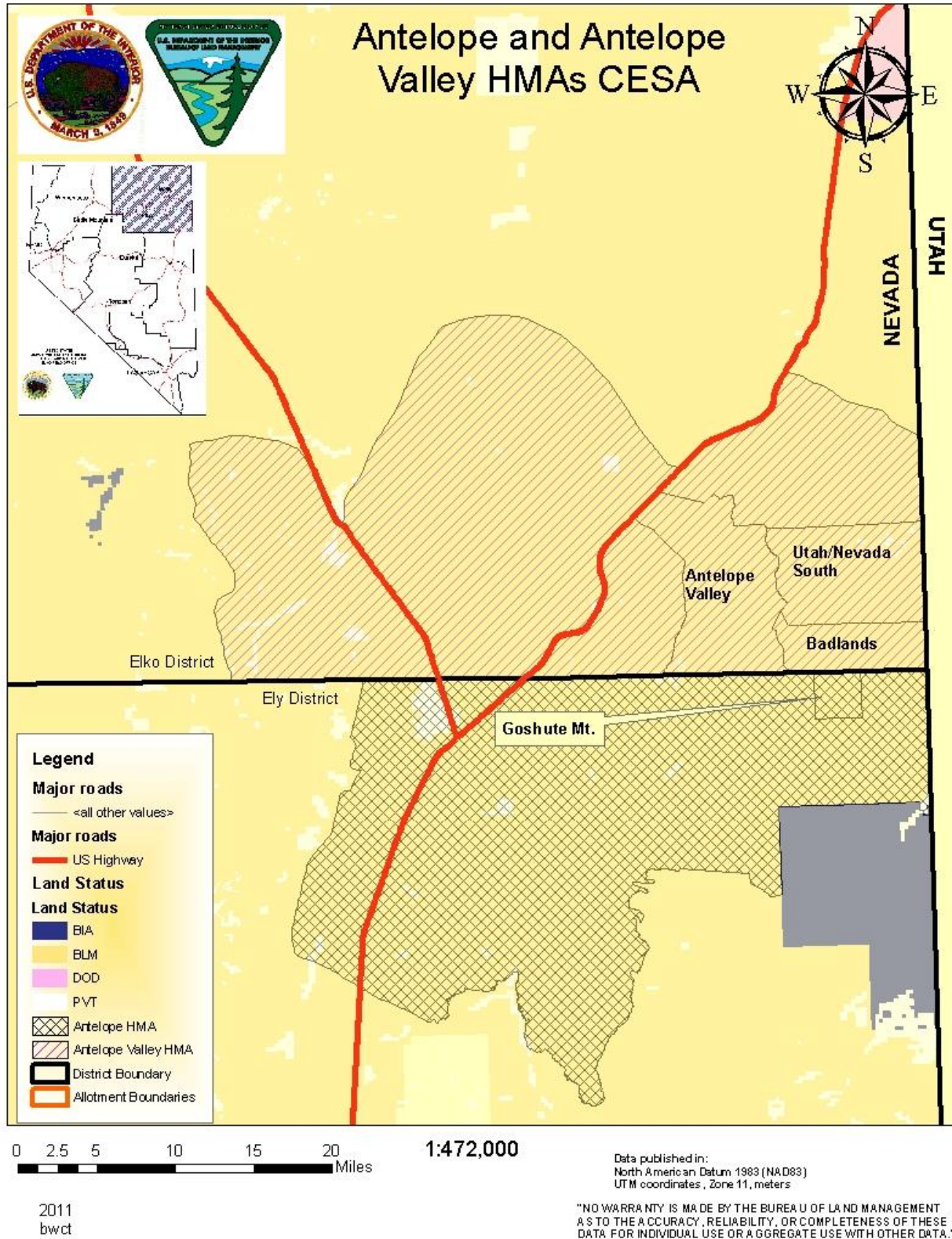
Map #2 Range Improvements in the Area Surrounding the Badlands & Goshute Mountain Allotments.





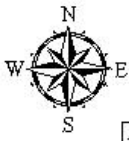
## Badlands and Goshute Mountain Allotments Grazing Permit Renewal

Map # 3 Antelope and Antelope Valley HMAs CESA



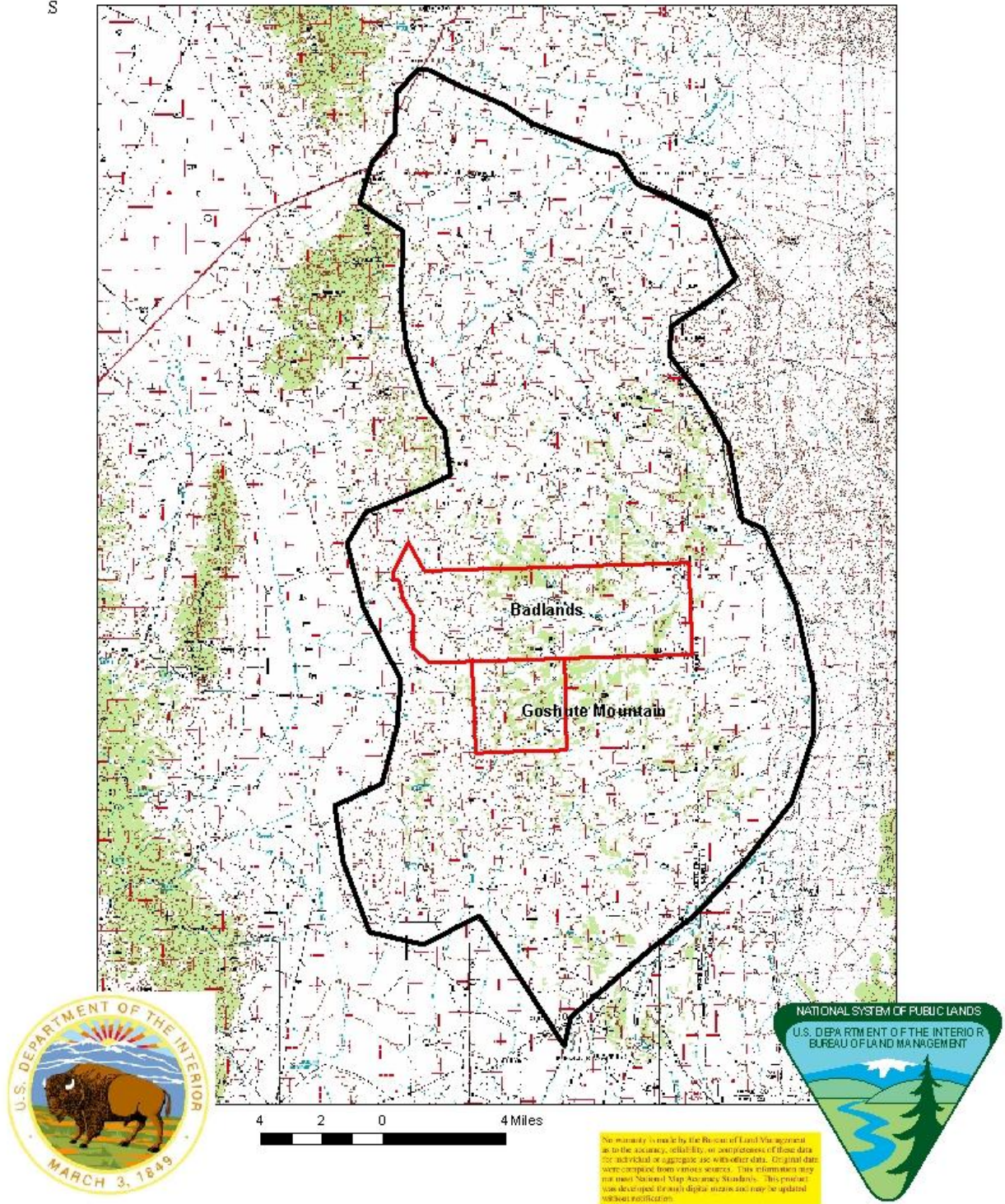


Map #4 General Wildlife CESA Map



## General Wildlife-Including Migratory Bird and Special Status Species CESA

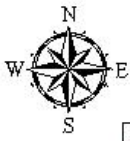
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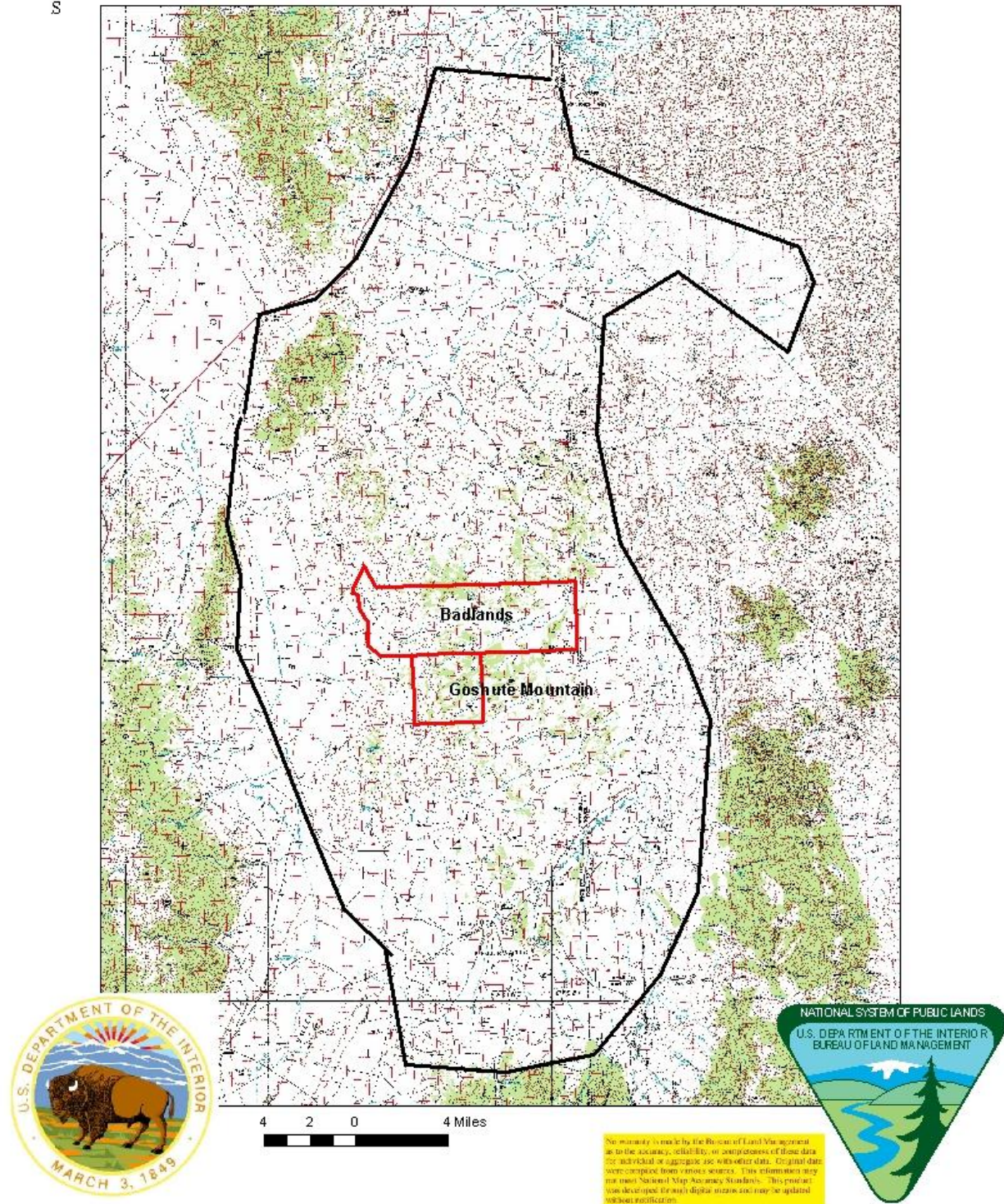
# Badlands and Goshute Mountain Allotments Grazing Permit Renewal

Map #5 Antelope CESA Map



## Antelope CESA

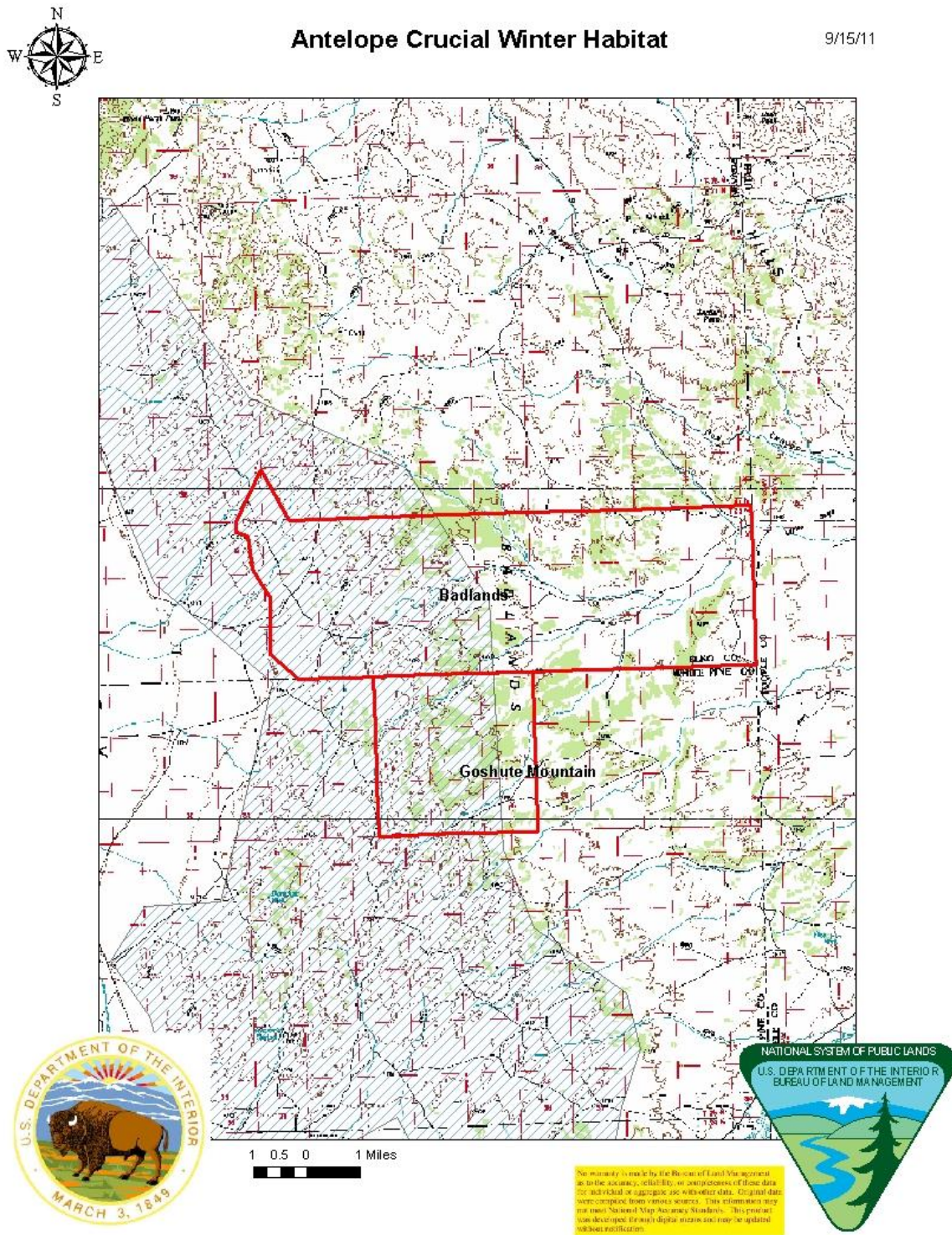
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# Badlands Goshute Mountain Allotments Grazing Permit Renewal

Map #6 Antelope Crucial Winter Habitat Map.



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